MONTHLY WEATHER REVIEW.

HENRY E. WILLIAMS, Acting Chief U. S. Weather Eureau.

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No. 5.

Editor, P. C. DAY, Climatologist and Chief of Division.

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CLIMATOLOGICAL DATA FOR MAY, 1913.

DISTRICT NO. 1, NORTH ATLANTIC STATES.

Prof. WILFORD M. WILSON, District Editor.

GENERAL SUMMARY.

The weather conditions for the month of May, 1913, conformed very closely to the normal in the North Atlantic States. About the only feature worthy of note was the rather marked warm period covering the 2d to the 5th or 6th, which was followed by a reversion to much cooler with damaging frosts in many parts of the district from the 8th to the 12th. Fruit trees were in full bloom in the southern and central parts of the district at this time and the injury was serious in many localities. The first half of the month was extremely dry, but the soil was well stored with moisture from previous rains, and the period of dry weather was utilized to advance spring work. The following table exhibits the leading features of meteorological interest for the various sections of the district:

	Т	empera	ture			Precipit	ation.			rage aber
States or parts of States within district No. 1.	Average.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest total.	Least total.	Rainy days.	Clear days.
New England New York Pennsylvania New Jersey Maryland, Delaware, and District of Columbia	53. 2 55. 3 58. 5 60. 3	-1.9 -1.4 -1.3 0.0	92 93 93 94	18 17 23 25	3.32 3.33 3.74 3.45	-0.27 -0.47 -0.31 -0.46	4. 94 5. 36 6. 45 4. 86	1. 65 1. 87 0. 48 2. 53	9 9 9	11 11 11 11 11
West Virginia Virginia	63.3 59.8 63.6	$+0.1 \\ -1.0 \\ -0.1$	94 95 92	26 19 27	4. 13 5. 99 5. 00	+0.57 +2.18 +1.05	7.94 7.90 8.45	2.18 3.98 3.58	9 11 10	1

TEMPERATURE.

The average temperature for the district was 59.1°, which is about 0.8° below the May normal, and ranged from 53.2° in New England to 63.3° in Maryland and Delaware. The northern half of the district was slightly cooler than usual, while the temperature for the southern part was very near the normal. The highest average temperature for individual stations, 66.0°, occurred at Annapolis, Md., and the lowest, 45.8°, at Eastport, Me. The month opened moderately warm for the season but with rapidly rising temperature, which culminated in the only marked warm period of the month from the 2d to the 6th. In New England and New York maximum temperatures of 80° to 85° were general, and at a few places day temperatures of 90° or higher were recorded during this period. In the central and southern parts of the district maximum temperatures of 90° and above were of common occurrence. The highest temperature for the district, 95°, was recorded at Martinsburg, W. Va., on the 3d. The temperature began to fall rapidly during the night of the 7th, and on the morning of the 8th freezing weather was reported at stations in the interior of New England and New York. The cold weather spread gradually southward, freezing temperatures being reported in New Jersey, Maryland, Delaware, and Virginia on the 10th and 12th. The few days of warm weather that preceded this cold period forced fruit into full bloom, particularly in the central and southern parts of the district, so that

the injury from the frosts that occurred was serious in many places. The lowest temperature for the district, 17°, was recorded at Indian Lake and Morehouseville, N. Y., on the 15th and 12th, respectively. These stations are located in the Adirondack Mountains. The weather continued rather cool for the remainder of the month without unusual fluctuations.

PRECIPITATION.

The average precipitation for the district was 4.14 inches, which is about 0.33 inch above the May normal. The number of stations reporting precipitation in excess of the normal was 96, while those reporting a deficiency was 129. Only 1 station reported a monthly total of less than 1 inch, while at 12 stations the rainfall for the month amounted to 6 inches or more. There was a slight deficiency in New England, New York, New Jersey, and Pennsylvania and an excess for the remainder of the district, the greatest being 2.18 inches in West Virginia. Practically all the rainfall for the month occurred during the last two weeks. Previous to the 15th the weather was remarkably fair and pleasant, with only light local showers at widely scattered stations. From the 15th to the 19th general though not excessive rains occurred in all parts of the district except the northern part of New England. Only a few stations reported rain on the 20th, but on the 21st rain began in the southern part of the district, spreading north to New England by the 22d. For the remainder of the month rains occurred at short intervals in all parts of the district. Excessive precipitation (2.50 inches or more in 24 hours) occurred as follows: Culpeper, Va., 4.00 inches, 22d-23d; Quantico, Va., 4.97, 23d-24th; Milford, Del., 3.04, 24th; Hyndman, Pa., 2.95, 27th.

RIVER CONDITIONS.

There were no unusual facts connected with the stream flow during the month. In the navigable rivers good boating stages prevailed at all times, notwithstanding the long period of nearly rainless weather that marked the first half of the month. The rivers were highest either about the first of the month, owing to the heavy rains that occurred during the last decade of April, or near the end of the month, as a result of the general rains that came the last of May.

SUNSHINE.

Sunshine records from 14 representative stations gave an average of 253 hours for the month, which is 57 per cent of the possible, about the same as in May last year. The distribution of clear weather over the district showed considerable variation. The extremes in the percentage of possible sunshine recorded were 69, at Atlantic City, N. J., and 45 at Binghamton, N. Y. At the latter place there were but 4 clear days, while at other stations in the same State the records gave 15 clear days. For the entire district the number of days with 0.01 inch or more of precipitation averaged 9; the clear days, 13; the partly cloudy days, 9; and the cloudy days, 9.

TABLE 1 .- Climatological data for May, 1913. District No. 1, North Atlantic States.

			years.	Temp	erature	, in c	degre	es Fah	renh	neit.	Prec	pitation	, in in		days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy 0.01 inch or mo	Number of clear days.	Number of part- ly cloudy days.	cloudy days.	Prevailing wind c	Observers.
Maine.				-																
Bar Harbor Cornish Eastport Fairfield Farmington Gardiner Greenville Houlton Lewiston Madison Millinocket North Bridgton Orono Patten Portland Presque Isle Rumford Falls Van Buren Winslow	York. Washington. Somerset. Franklin Kennebec. Piscataquis Aroostook Androscoggin Somerset. Penobscot. Cumberland. Penobscot. do. Cumberland Aroostook Oxford.	362 185 257 386 450 129	27 58 41 28 16 21 9 11 39 10 10 20 44 41 11 42 4 20 8 18	49. 7 50. 8 52. 6 50. 8 49. 24 50. 0 48. 64 51. 6	- 2.2 - 4.5 - 3.6 - 2.3 - 1.9 - 3.5 - 2.1	86 90 79 85d 72	3 3 3 3 6 6 3 4 6 3 7 6 3 7 6 6 3 7 6 6 6 3 6 6 6 6 6 6	26 26 30 25 27 28 26 34 26 21 32 26 18 ⁴ 37 22 ⁴ 31 25 27	15† 15 15 16 16 1† 15 2 13 16 15 17 16 15 17 16 15 17 16 15 17 16 15 17 16 15 17 17 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	36 46 28 40 45 43 45 39 43 53 48 48 423 41 41	3.51 3.01 1.83 4.22 4.29 2.87 4.71 3.15 3.64 2.92 3.53 3.68 3.86	+ 0.06 + 0.75 + 0.22 - 0.41 - 0.12 - 0.41 - 0.37 + 0.76 + 0.21 - 0.29 + 1.10 - 0.23 - 0.75 - 0.19	1. 25 1. 02 1. 92 1. 04 1. 03 0. 89 0. 52 1. 35 1. 35 1. 35 1. 00 0. 78 1. 13 0. 95 1. 14 0. 94 1. 87	T. T. T. T. T. T. T.	10 11 13 8 12 5 10 9 12 10 8 4 10 8 9	12 11 8 15 	6 10 12 0 3 18 12 3 15 10 5 ⁴ 7 5 6 3	13 10 11 16 13 13 11 14 9 13 10 13 11 7 11 10	se. ne. s. sw. ne. nw. nw. nw. nw. nw. nw. nw. nw. nw. nw	William Miller. T. H. West. U. S. Weather Bureau. E. F. Parker. State Normal School. Samuel D. Soule. U. S. Weather Bureau. Bangor & Aroostook R. R. Union Water Power Co. William Jardine. F. C. Bowler. G. E. Chadbourne. Department of Physics. Bangor & Aroostook R. R. U. S. Weather Bureau. W. T. Faulkner. Charles A. Mixer. J. M. Thomas. Hollingsworth & Whitney Co.
New Hampshire. Alstead Center Benton Bethlehem Concord Durham Franklin Grafton Hanover Keene Nashua Newton Plymouth	Gratton do Merrimack Stafford Merrimack Gratton do Cheshire Hillsboro Rockingham	1,470 350 88 440 863 603 506 125	9 4 21 53 18 14 27 79 28 28 25 25	52, 3 49, 4 49, 9 53, 2 51, 2 53, 6 50, 6 53, 0 53, 8 55, 0 50, 6 52, 4	- 2.7 - 2.4 - 2.5 - 2.2 - 4.6	82 83 88 88 78 89 87 88 90 88 78	2† 5† 6 3 3† 3 6 3 3 6 6 6	28 27 24 29 30 27 20 26 23 31 26 25	11 11 15 12 15 12 12 15 12 12 15 12 12 12	47 54 38 49 39 51 50 49 50 43 39 49	3.76 3.73 4.13 3.17 4.17 4.28 3.52 4.54 4.10 3.69 3.27 3.73	+ 1.07 - 0.07 + 1.50 + 1.42 - 0.08 + 1.81 + 0.72 + 0.28 - 0.36 + 0.37	0.75 0.95 1.05 1.46 1.11 1.15 0.98 1.44 1.31 1.00	T. T. T.	13 12 11 11 8 10 10 13 11 7 7	12 13 10 11 16 14 15 7 14	9 7 10 10 3 9 6 12 7	10 11 11 10 12 8 10 12 10 12 10	nw. nw. nw. nw. nw. nw. nw. nw.	Frank Dewing. State Sanatorium. Benjamin Tucker. U. S. Weather Bureau. Agricultural Exp. Station. Dr. C. P. Webster. P. R. Kimball. Dartmouth College. Samuel Wadsworth. Jackson Co. W. C. Gale. Hattie G. Trow.
Vermont. Bloomfield	Windsor Orange	910 840 980 2,096 711	6 10 18 14 1 20 21	49. 9 52. 6 50. 0 53. 3 49. 4 52. 5 52. 8	- 2.6	88 91 • 85 84 85 88 88	6 3 3† 3 3† 6 3†	19 25* 21 30 20 22 27	15 15 12† 12 12 12 15 15	54 48 48 38 48 48 44	3.15	+ 0.17 + 0.62 + 1.09	0.73	T. T.	15 11 10 7 14 10 6	11 15* 12 12 12 10 9 11	8 5 6 10 4 10 7	12 11. 13 9 17 12 13	s. w. n. ne. sw. nw.	Lyman Falls Power Co. E. D. Kingsbury. W. F. Dewey. N. M. Canfield. J. Albert Holmes. Fairbanks Museum. John S. Eaton.
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Block Island	Washington Newport	53 250 22	33 27 24 31 9	55. 0 53. 0 53. 6	+ 0.9 - 0.6 - 2.0 - 1.4 - 3.3	83 80	3	39 36 27 31 34	11 11 11 11 11	26 40 34	1. 65 1. 72 2. 51 2. 75 1. 84	- 2.10 - 2.10 - 2.06 - 1.50 - 1.67	0.70 0.87 0.98 1.07 0.52	0	5 7 10	18 13 -20	9 1	13 5 9 10 11	nw. s. se.	U. S. Weather Bureau N. G. Herreshoff. Nathaniel Helme. U. S. Weather Bureau. Do.
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Table 1.—Climatological data for May, 1913. District No. 1—Continued.

	-0		years.	Tem	perature	, in c	legre	es Fah	renh	eit.	Prec	ipitation	, in inc		days,	_	Sky.		direc	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind c	Observers
New York.																				
Addison Albany Alfred Amsterdam Athens Ballston Lake Bedford Beeerston Binghamton Bouckville Boyds Corners Jarmel Anatham Cooperstown Jorinth	Albany Allegany Montgomery Greene Saratoga Westchester Delaware Broome Madison Putnam do Columbia Otsego Saratoga Cortland Suffolk Madison Chemung Warren Fulton Saratoga Warren Fulton Otsego Newren Hamilton Suffolk Madison Otsego New Achimer Ulster Hamilton Otsego New York Warren Fulton Otsego Nassau Orange Nassau Herkimer Westchester Suffolk Chenango Suffolk Putnam Otsego Suffolk Putnam Otsego Saratoga Oneida Montgomery Rensselaer Oneida Sunfolk Dutchess Orange Tioga Albany Orange	97 1,976 2777 90 400 450 1,214 875 1,356 560 500 470 1,250 5129 32 1,302 1,303 340 850 314 425 1,705 1,240 2,300 9,244 1,240 2,300 9,244 1,407 1,325 1,060 1,234 1,002 7,132 1,122 916 40 470 215 1,526 200 90 1,234 1,002 751 1,526 310 1,300 400 751 1,300 751 208	23 92 18 9 11 19 22 16 31 31 21 15 16 16 18 11 16 26 23 28 21 11 11 11 11 11 11 11 11 11	54. 6 53. 1 56. 8 56. 0 52. 1 55. 8 54. 4 57. 7 56. 6 53. 6 55. 8 54. 4 57. 7 56. 6 55. 8 54. 2 55. 8 54. 2 55. 8 54. 2 55. 8 54. 2 55. 8 55. 8 54. 2 55. 8	+ 0.1 - 2.4 - 1.1 - 1.9 - 1.6 - 2.5 - 1.1 - 2.1 - 2.2 - 1.8 - 2.2 + 1.0 - 1.6 - 1.6 - 1.6 - 1.6 - 1.6 - 1.4 - 1.3			25 34 4 25 32 28 33 32 20 36 36 4 31 31 31 8 28 27 72 5 32 31 31 72 72 73 34 34 20 33 33 77 22 28 33 33 32 26 35 26	11 11 8 11 11 11 12 12 11 11 11 11 11 11 11 11	36 36 40 41 38 40 40 40 45 38 42 46 50 84 42 46 34 43 39 39 37 37 41 41 42 43 40 40 40 40 40 40 40 40 40 40 40 40 40	2.78 3.41 3.12 3.91 3.20	- 0.15 + 0.31 - 2.46 - 0.00 - 0.37 - 1.57 - 1.32 + 0.23 + 0.41 - 1.57 - 1.34 - 0.06 - 0.61 - 0.11 - 0.11 - 0.11 - 0.13 - 0.28 - 0.31 - 0.36 - 0.28 - 1.65 - 0.31 - 1.55 - 0.20 - 1.28 + 0.80 - 1.12 - 0.55 - 0.90 - 1.28 + 0.80 - 1.12 - 0.67	1. 31 1. 31 1. 12 1. 18 1. 105 1. 80 0. 87 0. 87 0. 87 1. 100 1. 00 1. 0	T. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	111 177 877 89 88 10 88 99 10 99 66 88 11 17 99 96 44 77 99 77 89 99 77 99 99	21 14 19 12 15 14 17 4 9 18 15 12 11 19 16 16 19 16 8 11 12	4 8 1 9 3 3 9 9 5 1 1 9 9 5 1 1 1 7 9 9 1 1 1 1 1 1 1 1 1 1 1 1 1 1		SW. NW. W. NW. NW. NW. NW. NW. N	Dr. H. R. Ainsworth. U. S. Weather Bureau. F. S. Place. Emery Elwood. E. C. Brooks. Géorge R. Schauber. Dr. L. Rosenberg. John Q. Barlow. U. S. Weather Bureau. L. W. Griswold. Thomas Manning. Do. Morton R. Tank. Miss Elizabeth C. Kees. A. M. Hollister. F. G. Baker. William A. Fleet. B. D. Crandall. Thurber A. Brown. Prof. C. L. Williams. W. L. McLean. S. E. Darrow. Homer J. Whitcomb. W. G. Collins. Sanford L. Cluett. Lester Severie, jr. Chas. Wilfert, jr. Dr. H. M. King. O. J. Dempster. Daniel Smiley. Theo. C. Remonda. Prof. I. M. Charlton. W. A. Cornelius. Lyman D. Clinton. Chas. F. Sarle. G. A. Yates. U. S. Weather Bureau. W. G. Kenwell. P. C. Pickard. H. W. Lee. J. P. Davis. Prof. Thos. Colby. W. H. Nearpass. C. H. Hechler. Joseph Ryan. C. H. Wilmarth. Selah B. Strong. D. G. Trow. W. L. Jagger. Thos. Manning. F. H. Bilderbeck. George E. Fifield. C. W. Young. R. S. Marshall. David B. Plum. W. E. Young. H. B. Fullerton. H. C. Towssend. John W. Sly. J. F. Shoemaker. W. J. Haverly. U. S. Military Academy. A. R. Mott.
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TABLE 1.—Climatological data for May, 1913. District No. 1—Continued.

	1911		years.	Tem	peratur	e, in	degr	ees Fa	hren	heit	Pre	cipitatio	n, in ir	ches.	days,		Sky		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, yes	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear	Number of part-	Number of	Prevailing wind d	Observers.
Pennsylvania—Contd.																				and a state of the second
Selinsgrove. State College. Towanda. Wellsboro. West Chester. Williamsport. New Jersey.	Center	455 1, 191 754 1, 327 455 530	25	60. 2 58. 7 55. 6 55. 7 61. 6 58. 1	- 1.2 - 0.4 - 2.7 - 1.3 + 1.1 - 2.5	90 87 88 89 90 88	3 4 4 4 4 3	27 32 28 95 35 33	12 11 11 12 11 12	43	3.36 4.23 2.09 3.56 5.87 3.54	- 1.10 0.00 - 1.02 - 0.77 + 1.29 + 0.82	1. 12 1. 08 1. 12 0. 98 1. 65 0. 69	0 0 0 0 0	9 12 10 10 16 11	16	9 11 11 4	10 11 4 6 10	se. w. nw. nw. nw. nw.	J. M. Boyer, C. E. Prof. Wm. Frear. Hiram E. Bull, C. E. O. L. White. J. C. Green, D. D. S. Henry H. Guise.
Asbury Park. Atlantic City Bayonne. Belvidere Bergen Point. Boonton Bridgeton. Burlington. Cape May City Charlotteburg. Charlotteburg. Chatham Clayton. Culvers Lake Dover Elizabeth. Flemington Haddonfield Hightstown Highwood. Imlaystown Indian Mills. Jersey City Lakewood. Layton. Little Falls. Long Branch Mahwah Moorestown Newark New Brunswick Newton. Northfield Paterson Phillipsburg Plainfield Pompton Plains Somerville. Pompton Plains Somerville. South Orange Sussex Frenton. Trenton. Trenton. Tuckerton. Wineland. Woodbine.	Atlantic Hudson Warren Hudson Morris Cumberland Burlington Cape May Passaic Morris Gloucester Sussex Morris Union Hudson Mercer Bergen Monmouth Burlington Cape May Passaic Warren Union Hudson Ocean Sussex Passaic Monmouth Bergen Hondon Canden Addlesex Passaic Morris Cean Russex Passaic Morris Russex Atlantic Passaic Warren Union Atlantic Morris Somerset	22 16 50 289 37 230 30 11 719 234 126 848 600 45 140 75 119 90 107 76 10 10 107 75 15 100 678 25 80 31 100 26 26 26 26 26 26 26 26 26 26 26 26 26	25 400 233 23 32 23 32 27 35 26 25 24 15 11 1 6 11 51 70 60 34 42 23 27 15 11 30 43 42 20 44 22	61.8 61.0 58.1 57.8 61.1 57.7 60.4 60.8 60.5 57.8 60.4 64.0 60.8 60.5 57.8 60.4 63.1 59.6 62.0 60.4 60.8 60.6 60.6 60.6 60.6 60.6 60.1	- 0.7 - 0.2	87 89 92 93 89 91 90 90 90 90 90 90 90 93 88 88 90 93 89 91 91 91 91 87 88 91 91 91 91 91 91 91 91 91 91 91 91 91	33333 3733 3	322 344 355 340 355 341 322 344 355 341 321 331 331 331 331 331 331 331 331 33	11	37 32 38 36 37 38 37 36 38 40 37 40 33 32 46 37 35 33 33 33 33 33 33 33 33 33 33 33 33	3. 00 3. 39 2. 65 3. 69 3. 87 4. 00 3. 87 4. 00 3. 30 3. 30 3. 31 4. 80 3. 30 3. 44 4. 32 3. 20 3. 23 3. 48 3. 30 3. 48 3. 30 3. 51 4. 60 3. 51 4. 60 3. 51 4. 60 3. 51 4. 60 3. 51 51 51 51 51 51 51 51 51 51 51 51 51 5	- 0. 22 + 0. 52 0. 00 - 0. 69 - 0. 59 - 1. 60 - 0. 24 + 0. 35 - 1. 73 - 0. 20 - 0. 97 - 0. 81 - 1. 35 + 0. 61 - 0. 60 - 1. 09 - 0. 66 + 0. 76 - 0. 12 - 0. 12 - 0. 13 - 0. 13	1. 80 1. 84 1. 65 1. 41 1. 160 1. 160 1. 17 1. 160 1. 17 1. 160 1. 17 1. 100 1. 17 1. 100 1. 185 1. 190 1.		11 9 10 6 8 8 7 9 10 11 15 10 7 9 9 8 11 10 11 17 9 9 7 11 18 7 7 5 9 10 11 19 9 8 8 7 11 8 8 8 8 7 5 8 8 8 9 12	7 12 15 12 11 15 19 18 15 11 12 11 14 15 18 17 16 16 16 18 17 16 16 18 17 16 16 17 17 18 18 17 16 16 17 17 18 18 17 15 16 16 17 17 18 18 17 15 16 16 17 17 18 18 17 15 16 16 17 17 18 18 17 17 18 18 17 15 16 16 17 17 18 18 17 17 18 18 17 18 18 17 16 16 17 18 18 17 18 18 17 18 18 17 16 16 16 17 18 18 18 17 18 18 18 17 18 18 18 17 18 18 18 17 18 18 18 18 18 17 18 18 18 18 18 18 18 18 18 18 18 18 18	15 9 6 0 12 0 8 7 13 8 8 0 0 5 3 14 7 7 3 8 8 6 6 5 4 10 10 9 9 25 3 2 8 6 6 5 4 13 2 8 5 5 2 7 1 1 5 6 6 6 12	9 10 10 10 9 8 8 7 7 8 8 5 5 4 4 13 3 5 7 11 8 8 10 12 9 6 10 5 7 7 15 8 13 16 9 10 12 2 9 10 6 3 3	nw.	H. E. Denegar. U. S. Weather Bureau. Erskine R. Eadle. Samuel J. Hixson. Wm. H. Mitchell, D. D. S. Joseph White. Henry A. Jorden. D. S. B. McCoy. U. S. Weather Bureau. George S. Briggs. M. A. Butler. William T. Farley. Brice E. Riker. William T. Farley. Brice E. Riker. William T. Farley. Brice E. Riker. William C. Harris. L. B. Bonnett. Hiram E. Deats. Charles F. Richardson. Frank V. Jemison. Charles J. Bates. H. E. Bullock. James Armstrong. Samuel K. Pearson, jr. Ralph Robertson. Warren C. Hursh. A. Sweetman. Wm. D. Martin, jr. Charles L. Barker. George L. Gillingham. Prof. William Wiener. Prof. Jacob G. Lipman. F. Vernon Losee. William L. Flick. Heber A. Probert. D. W. Smith. John Neagle. Lincoln Van Gilder. M. S. Taylor. A. A. Macdonald. Dr. Wm. J. Chandler. George Dymock. U. S. Weather Bureau. Frank R. Austin. Alfred Chalmers. Prof. R. D. Maltby.
	Mineral Pendleton	2,500 875	11 19 7	55. 6b 60. 0	- 1.7 - 1.8	86 90	5 5	26	12	50	7.08		1.86 1.45	0	12 9	10 ^b 12	5b 13	14b 6	w. w.	Solomon Clark. J. W. Vandiver. Fred Calhoun.
Aartinsburg	Berkeley	435 900	21 18	58.5 63.5	*****	80 95	3†	30 33		36 51	6. 03 3. 98	+ 0.20	1. 27		10	13 16	9	6	sw. s.	B. D. Hinegardner. G. W. VanMetre, C. E. John C. Fisher.
John Tract	Hampshire Pendleton		17	61.4	- 0.5	89	6	25	11†	46	4.98	+ 1.45	1.50	0	ii	9	15	7	w.	E. F. Staub. J. M. Mallow.
nnapolis. laltimore. ambridge heltenham hestertown hewsville lear Spring oleman ollege Park umberland arlington lenton aston mmitsburg allston rederick rostburg, reat Falls. reen Spring Furnace eedysville ake Montebello aurel eenardtown onrovia comowic City inneess Anne	Montgomery Washingtondo Baltimore Prince Georges St. Marys Frederick Worcester Montgomery Worntgomery	115 25 230 80 650 650 650 170 623 300 42 35 720 450 450 450 150 110 630 37 217 217 217 217 217 217 217 217 217 21	43 15 13 27 16 15 13 22 23 22 24 14 43 38 6 6 23 21 9 4 10 3 28 20 6 8 8	61.4 - 63.6 + 63.2 - 63.3 + 61.8 + 63.5 + 60 0	- 0.7 - 0.1 - 0.8 - 0.5 - 0.1 - 0.5 - 0.1 - 0.1 - 0.1 - 0.1 - 0.1 - 0.1 - 0.1 - 0.2 - 0.3 - 0.1 - 0.5 - 0.1 - 0.1 - 0.1 - 0.1 - 0.2 - 0.3 - 0.1 - 0.2 - 0.3	888 991 993 990 991 999 990 991 992 993 993 994 994 999 999 999 998 999 998 999 998 99	3343434343554444334	40 38 29 35 26 33 33 33 30 33 30 30 30 29 32 28 32 32 30 33 34 30 34 34 34 34 34 34 34 34 34 34 34 34 34	11† 111 10 12 111 112 112 112 111 112 112 1	32 46 40 36 343 39 45 43 37 45 38 39 31 44 43 38 44 44 49 38 33 36 33 38 38 39 44 43 38 38 44 38 38 44 38 38 48 48 48 48 48 48 48 48 48 48 48 48 48	3. 12 3. 78 6. 07 3. 88 2. 98 4. 52 4. 53 4. 60 4. 53 4. 60 4. 53 5. 45 4. 60 7. 60 6. 24 6.	- 0. 44 + 0. 12 + 3. 32 - 0. 07 - 0. 71 + 1. 58 + 0. 30 + 1. 04 + 2. 47 + 0. 91 + 2. 13 + 1. 41 - 0. 92 + 0. 03 - 0. 31 - 1. 82 - 1. 88 + 1. 88 + 0. 35 - 0. 86 - 0. 66	2.00 1.86 2.20 1.18 2.20 1.18 1.28 2.23 1.96 2.23 1.96 2.18 1.62 2.18 1.73 1.00 1.32 1.73 1.10 1.32 1.32 1.32 1.32 1.32 1.32 1.32 1.32	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	111 9 111 5 9 111 5 111 111 8 8 9 9 9 12 111 113 8 13 8 9 9 5 7 7 8 8	17 17 11 18 19 12 14 15 20 19 13 4 18 9 17 16 20 11 19 15 16 20 11 11 15 16 16 16 17 18 18 19 19 19 19 19 19 19 19 19 19 19 19 19	8 10 4 11 11 16 9 7 8 6 10 7 7 7 1 22 3 1 20 6 8 4 4 11 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	9 5 10 3 4 4 5 11 11 6 4 5 7 7 5 5 5 9 6 4 4 5 6 4 5 7 6 6 4	e. sw. nw. w. nw. ss. sw. se. ne. se. nw. se. nw. se. nw. se. nw.	U. S. Naval Academy. U. S. Weather Bureau. T. E. Keenan. George Hartnell. M. W. Thomas. D. Paul Oswald. W. W. Frantz. J. S. Harris. Prof. H. J. Patterson. F. E. Harrington. Prof. A. F. Galbreath. H. B. Mason. Henry Shrevo. James J. White. J. H. Curtiss. Chas. S. Birely. R. A. Walter. Chas. E. Sullivan. E. G. Kinsell. J. A. Miller. Martin L. Dobler. Dr. T. M. Baldwin. Brother Fidelis. J. H. Lawson. Hon. R. M. Stevenson. J. R. Stewart. Dr. G. E. Lewis. W. E. Downing. Dr. W. H. Marsh.

TABLE 1.—Ciimaiologica: daia for May, 1915. District No. 1—Continued.

		1	years.	Temp	perature	, in (legre	es Fab	renh	eit.	Prec	eipitation	, in in	ches.	lays,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	7	Observers.
Maryland—Continued.																				
State Sanatorium Sudlersville. Takoma Park. Towson. Van Bibber Westernport. Westminster Woodstock.	Montgomery Baltimore Harford	65 320 465 100	6 15 15 5 16 19 20 43	61.4 62.2d	- 0.9 - 0.1 - 1.6 - 0.6 + 0.8 + 2.7	91 90 92 87 91 90 ^d 89	3† 3 3 2 3 3†	33 35 30 28 30 294 36	12 11 11 11 12 12 12	40 40 39 38 47 39d 32	2.99 3.78 7.94 3.46	- 0.65 + 1.11 + 0.34 + 3.82 - 2.07 - 1.00	0.88 2.35 1.30 2.03 1.75 1.25 0.78	0 0 0 0 0 0	10 10 8 12 7	18 8 15 18 17d 21	8 18 6 6 6	5 5 10 7 8d 8	e. se. w.	Superintendent. Henry L. Higman. L. M. Mooers. C. W. E. Treadwell. W. Benj. Ford. Prof. O. H. Bruce. Prof. G. F. Morelock. Rev. J. F. Dawson, S. J.
Delaware.																				
Delaware City Dover	Kentdo Sussexdo.	10 40 20 20 40 86	6 25 29 21 22 2	64.4	- 0.2 + 1.5 + 0.4 + 0.7	88 93 91 88 91 90*	3† 4 3† 4 4 3	34 33 33 34 32 37•	11 11 11 12 12 12	34 40 38 35 40 32*	4.68 4.74 3.18	+ 1.86 + 1.02 + 0.79 - 0.63 - 0.82 + 2.49	1.26 1.85 3.04 1.05 1.80 1.30	0 0 0 0 0	10 8 5 8	24 12 17 20 19 20	2 14 11 4 8 7	5 5 3 7 4 4	s. nw. nw. ne. s. nw.	H. Morton Price. W. C. Josting. C. J. Holzmueller. Rev. L. W. Wells. E. B. Brown. A. J. Taylor.
District of Columbia.																				
Washington	Dist. of Columbia.	112	43	64.4	+ 0.2	90	4	37	12	36	4.55	+ 0.72	2.49	0	11	11	8	12	nw.	U. S. Weather Bureau.
Virginia. Culpeper	Rockingham Northampton Spotsylvania Loudoun do Prince William Augusta Fairlax Richmond	15 100 500 1,726 16	5 34 3 24 12 9 16 21 1 21 2 17	62.5	- 0.3 + 0.4 - 0.1 - 2.6 + 0.3 + 0.7 + 0.6 - 0.4	90 89 88 90 92 83 89 90 91 90	2 3 3 4 4† 4† 5 3† 5	32 27 34 34 29 31 30 31 30 34	12 12 12 11† 12 11 11 11† 11 12 7† 12	41 26 44 43 40	6.05 4.46 6.27 4.03 5.29 4.62 8.45 3.58 4.47 3.79 4.79	- 0.06 + 2.37 - 0.13 + 1.85 + 0.87 - 0.34 +0.13	4.00 1.92 1.55 1.86 1.65 1.86 4.97 1.52 1.73 1.60 1.04	0 0 0 0 0 0 0 0 0 0	10 12 10 8 10 8 13 8 10 9	14 10 14 20 14 11 22 7 18 12 14	14 10 15 6 8 10 5 11 3 16 10 15	3 11 2 5 9 12 4 13 9 3 7	nw. s. sw. nw. n. nw. ne. ne. se. n. w.	Col. H. C. Burrows. Rev. L. J. Heatwole. T. B. Robertson. S. G. Howison. Dr. Geo. Roberts. U. S. Weather Bureau. Rich., Fdksbg. & Pot. R. R. Ernest Nothnagel. Potomac Electric Power Co. C. H. Constable. Bentley Kern. Mrs. A. G. Artz.

*, b, e, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
**Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—Daily precipitation for May, 1913. District No. 1, North Atlantic States.

Stations.	Watershed.	_	1	1		1	_	1	_		_	1	1				of mo						,				1		1	-		124
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Maine.																															050	
shland	St. John															1												100				
ar Harbor mbridge rnish stoort sistor sistor idrifield rrdiner eenville outton owe Brook wiston dison llinocket orth Bridgton outton	Coast			03	3			. 05		.03	T.	T.	T.		T.		T.		. 05	. 05			.50	. 60	.50	T.	T.	T.	T.	1.25	.50	
mbridge	Saco		T	T.				.02		.20		T		02			13	••••	.12			T	.45	. 22	45	.09		7	1.02	.97	.23	· · · ·
nforth	Penobscot									*	1.40									.60		*	*	*	1.30	. 10	.50		1.00		1.60	1.
stport	Coast	. 02	T.	T.				. 19		. 04	.02	T.			.36				.06	T.			. 29	.58	.31		.05		.02	1.26	. 82	1
irfield	Kennebec	****					1.	1.	.03	.07	1.		****		T.	08			08	.11	.01		.34	.16	.10	.17	.01	.03	.18	1.15	.03	
rmington	do																		. 00					.00	****	. 10				1.01	.00	
rdiner	do			. 13			T.			. 23							.27	.02	.04				.28	.31	.61	.41			.03	1.03	. 13	.02
envine	St. John	****	****				.2	.02	••••	. 52	T.	T.		****	.04				.26	.04			. 64	51	.08	.01		T.	. 45	.89		80
we Brook	Penobscot																		.10				.08	.30	.08		.30			.22		.00
viston	Androscoggin						.01		:	.18				T.			.20		. 12].		.27	.57	.46	. 98			.18	1.35		T.
linocket	Penobscot	• • • • •	****	.00			T	T	19	.18						••••			06	01		00	. 28	.56		. 29			1.48	.08		
th Bridgton	Saco								. 10	.07				.02			.19		.05	.01		.02	.37	75	.76	1.13	.02		*	1.37	****	*****
no	Penobscot do Coast St. John Androscoggin Kenneber									T.		T.			.11					.11			. 39	.47	.38			. 15		. 59	.95	
tentland	Coast			T				T		. 64												7	1.00	T.			1.00			1.00		
sque Isle	St. John	****	****				T.	1.		. 14	****			.02	16	****	.19	• • • • •	T	88		T.	31	51	.57	. 40	16	T.	.18	57	1 00	
mford Falls	Androscoggin							T.		T.							. 23		.10				. 53	. 69	.47	. 45		T.	. 70	.48	1.00	.03
Forks	Kennebec St. John										· · · ·																					
nslow	Kennebec	••••				••••		.00	• • • • •	. 01	1.	T.		• • • • •	• • • • •	• • • •	• • • • •			15			.30	.43		1 92	. 20	T.	.20	1 30	. 79	.03
				1	1					. 54										. 10		***				01	.01			2.00		. 00
ew Hampshire.											10.1	1								11							150	18			100	1
tead Center	Connecticut.									T.	T.			.06	.03		. 21	.01	.03			T.	.33	.75	.73	.42			.33	.75		T.
tead Center ton hlehem okiline cord rham nklin tton nover me hlua tvon mouth	do					T.	T.		****	****	••••			.10			. 29		.14	.09		. 03	.57	. 26	. 04	. 22		. 28	.95	.16		
okline	Merrimack									T.				1.	.14	****	.36		.21				.56 1	.00	.20	.16		T.	1.40	.89		
cord	do	T.						T.		.03	T.			. 03			. 19		T.	.01		T.	.31	. 68	.32	.12		.02	1.08	.38		T.
ham	do		****		****					.01							. 91						. 34	. 73	1.00	.04				1.11		.03
fton	do	• • • • •	****				****		• • • • •	.05				T.	.05		.15		. UO .				.40	. 65	.91	. 67	••••	T.	.20	1.15		
over	Connecticut.									.01	T.			.01	.08		.27	.01					.69 1	. 44					.74	.51	****	
ne	do													T.	.01		. 19		.01	T.		T.	. 44	. 90	1.31	16	.12	.03	.30	. 63		
nua	Merrimack							T	• • • • •	T.				T.			.24		T	T.		T.	.30 1	. 44	. 26	.35		T	1.00	. 10		
mouth	do					T.		T.		.05	T.	****		T.	.02	****	.29		.14			1.	.60	. 71	.32	.46		T.	1.13	1.00	••••	
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Vermont.									1																							
omfield	Connecticut.									. 03	. 03				.12		.33		.04	.30	.03		.42	.33	.26	.04	.06		.11	1.00		
lsea	do		****			T.		.02		****	****			.00			.02		.02	. 03		.04	.45	67	.34	24	••••	19	.46	.45		
chester	Hudson										T.			T.			.17		.02	T.			.51	. 63	.43	T.		.17	.73	. 31		
lerset	Connecticut.		70							.01	T.		••••	.01			. 20	.02	.10	.09		T.	. 85	444.91	. 43 1. 16	.07	.06	.26		. 52		
non	do		1.					****		Т.	• • • •	****		.01	.13	****	17		.09			***	20 1	15	.47	. 02	••••	T.	.25	.94		Т.
omneid endish lsea schester uerset Johnsbury non	do																.45		.17				. 46 . 29 . 68		1.42				*	1.58		
Massachusetts.																			-					-			- 9			19	de la	
	Connecticut.						10		E.	00	,			04		04	26		m		1	10	40		05	-	200	10		01	-	
herst land ers Bridge ford 9 Hill ton stnut Hill ton eord River	Merrimack						.06			.02		****		.04		.04	.31		1.			. 10	. 22	. 40	2.82	.02	••••	*	1.34	.02	****	****
ers Bridge	do							T.		T.				T.			.70							. 62	1.72	. 17				. 81		
ford	Const	m					m	****		T.						· · · ·	. 25			.02		T.	. 28	. 72	. 70	. 31		T.	.35	.59		T.
on	dodo	1.	••••		••••		T.	. 10	••••	.01		****		T		T	43			.01		T	.38	. 10	. 09	07		T.	63	.84		T.
stnut Hill	do									. 04						. 23	. 17					.37	. 42	. 27	.14				.78	. 04		
ton	Merrimack			.01			.01	70		.01				27	·		. 27						. 17			2. 10			*	1. 16		
River	Coast		****				****	I.	****	T.			****	1.	T.		25			00		T.	. 25	. 05	1. 02	. 37	****	T.		.66		
Riverhburg	Merrimack		T.							T.				T.			. 25	T.		. 02		T.	.05	12	. 55	17		T.	.32	. 25	200	
ningham	do						. 03																*		2.681	2000			. 75	.01		
ernul	Coast		• • • •	• • • • •		T.	••••	T.	• • • • •	T.	• • • • •			T		••••	. 29					T.	. 23	. 55	. 97	.28	. 04		. 04	1.08	· · · ·	
nnis	do									. 03		****					. 23					*	.33		1 151	2000	1 45 2041	1		3.8	4.60	
erhill	Merrimack						. 09										. 34						*		2. 43					1. 201	2000	
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ninster	do		.02			****		1.		1.				T			.24		T	. 03 .		.01	. 20							1.14		
renceninsterell.	do									T.							.23			.02		.01	. 35 1	*	1.71	.35		*	1. 16	. 02		
lleboro	Coast									. 06							.39					.03	. 17	. 20	. 90	.09			. 15	. 11		
Bedford										02	••••	T.	••••		• • • •	20	. 02					T.	.07	. 28	. 87	T.	••••		.11	.34	****	
Bedford	do									T.					1		. 26					***	. 28	. 10	1. 26	. 16			T.	.80	. 10	
nouth	do									. 08		T.					. 35						. 10		2. 10	1. 20		. 18		. 40		
incetown	Merrimack Coast			****		••••	••••	. 05	••••	10	••••		••••			••••	. 20						*	* .	2, 10				95	99		
cport	do									. 12					. 02		.32					. 16	. 17 1	. 18	.08	. 07		177.0		1.00		
and	Connecticut.							. 09		. 01				т.	T.		. 20	. 15	T.	T.			. 23	. 25	1. 41	. 32	T.		. 02	1.25	T	T.
Pond	Coast		• • • •						• • • •	T.				T.			. 29		. 01			. 09	. 05	*	*	. 92			. 53	T.		
Pond	Connections		••••				. 20		• • • •	.03	••••					. 25	. 17	- 1											. 83	.06		
ing	Merrimack.						. 20			T.					••••		*	.25				***	*	*	*	2. 30		*		1.04	0.00	
nton ners Falls	Merrimack Coast Connecticut.	T.		••••			••••		••••	.04		T.		T.	T.	T.	. 27			T.		*	.31 .30		. 53	. 10				. 49		
tboro	Morrimech.				••••	• • • • •	****	••••	• • • • •			••••					. 22						.30	.72	1. 43			. 13		734		
amstown	Hudson							T.		. 03				T.			. 28		.07	T		. 172	. 30	. 100	. 221			- 10		1.00		
chendon	Connecticut.										. 03			. 04			. 21		T.				491	-00	45	23		. 03	. 87	68		
oester	Coast		• • • •				. 28	••••		.11				.01			.37					T.	. 58	. 92	. 69	. 08		T.	.64	T.		
Rhode Island.									-													1									- 1	
k Island	Coast	m								-							00			00		00	0.1	00		-	- 1			-	-	30
iol	do									T	••••	••••	••••			T	. 23		••••				.31	23	. 01	.00	••••	****	.34	.08	••••	••••
																	. 20					**		.01		. 10				. 02	••••	
nee Valleystonstonagansett Piertucketidenceum Lake	do																. 47			. 10 .			. 10							. 58		
ston	do		••••	• • • • •	••••	••••		70	• • • • •	.01		••••	••••			••••	. 35			. 10 .			. 12 .	-	. 98	. 15			. 80			
againsett Pier	do					• • • •	****	I.		. 01							.27			. 12 .		. UI	. 30	. 07	. 72	. 12			. 00	1.07		
tucket	do									-01		T		T			.39			T	- 1	-	*			1.03				. 64		

Table 2.—Daily precipitation for May, 1913. District No. 1—Continued.

Stations.	Watershed.	_										1	-			Day	-		1		-	-	-	-	1			-	- 1	1	1	_
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Connecticut.																																
dgeport	Coast						.01			T.				T.			. 43					T.			. 93				. 60			
ton	Connecticut.						. 40							T.			. 26								. 38				. 88			
hester	Coast Housatonie		• • • • •		****		.02			.07							. 32	****	.02			T. T.	.71	2.00	1.11			.09	. 65 1. 22	. 19	****	••••
ielson	Coast									. 03							. 70					*	*	*	1.24			*	*	. 60		
ls Village	Housatonic. Connecticut.	-00								.04				.06			. 17	T.	.01	01		. 40	. 50	1. 25	. 56	т.		. 10	1.04			
tfordwleyville	Housatonic .																	. 16	.04					.70	1.66				. 49			
e Konomoc	Coast																. 20							. 25	.75	. 20				. 90		
v Havenv London	do			1				de		01		1					05			02		01	. 16			T.	.0i		.80			
rosvenor Dale	do									.04			****				.35		.02	.02		.01	.28	.38	1.55			.02	1.27			
rosvenor Dale walk	do						. 04											· · · ·	. 20			.02	. 04	*	1.40			. 11	1.20			
thingtonth Manchester	Connecticut.							.05		T.				T	****		. 30	T.	****			T	. 10		2. 25	. 20		T.	. 70 1. 11	. 35		
TS	Coast				. 10				T.								.35			T.				. 42	1.48				.30			
rington	LIUUSGIUGIIC																							17	****					****		
untown	Coastdo									T		****			****	10	.06		****					1 19	.77		****	.05	73		****	
terbury	. Housatonic						. 01			T.				. 03			. 28					T.	.10	.20	1.75	. 40		.08	.91			
st Simsbury	Connecticut.						. 39			T.	T.			T.			.28		.04				*	*	2.94	T.		*	. 93			
New York.																																
lison	Susqu'hanna					. 02	.01			T.	T.					T.	.12		.06						. 26			. 59		T.		
anyed	Hudson Susqu'hanna						. 05				T		****				.09		.05			.10	15	1.16	.19	T.		.23	.88	.01		
sterdam	Mohawk									1.							T.	1.	. 22			T. T.		1.00	.30				1.12			
ens	Hudson						. 12	2						. 02		. 04	.18		T.			T.	. 14	1.18	.04	. 02		.12	.85			
nbridge	Susqu'hanna Hudson							.32		. 02				T.		T.	.07		.14			т.	. 19	.81	.85			.07	1.05	.90		
ford	Coast						.35	. 15		T.				T.			T.		.14			. 05	.06	.60	1.80	. 03	3	.06	. 55	. 20		
rston	Delaware						. 23	3		. 03				. 01			.04		. 19			.10	. 44	. 55	. 47	. 12	2		1.31	. 03		
ghamton	Susqu'hanna do						. 09			.01	T.		****	T.	****	.01			.09		****	.13	. 49	1.06 1.07	.11	. 02		. 24	.87			
mel	Hudson													. 03	3		.27						.07	*	1.77			. 20	. 07	.82		
tham	do	1				1		. 20				1		T.		T.	.42			.02		T.	. 22			. 13		.17		.12		
perstown	Susqu'hanna Hudson				. 05									****		. 20			. 21	.15		. 23	.77	.78		. 02		. 68	1.16	1.10		****
land	do	1					.07	7								.01	. 25		.17			. 13	.57	. 83	. 29	. 03	3	.34	.89			
chogue	Coast Susqu'hanna									T.				· · · ·		· · · ·						T.	.32	****	.87		1	.06		.14		
Ruyter	do		****				00			T.	T			T.		T. T.	T		.17 T.	****		.10		. 69	1.18	T		*	1.06 1.65	****	****	
as Falls	Hudson																.15		.10				. 36	.78	. 53	. 03	3	. 27	.74			
versville	Mohawk															T.			. 24	. 03		T.	.31	. 54	.44			. 52	1.60	. 04		
enfield Center	Susqu'hanna Hudson		****	****		****	****	****	****	****	****								.08		****		. 18	.80	.40			.37	1.00	.12		
enwich	do						1										.35						. 42						.88			
fin Corners	Delawaredo							19										11					. 25	70	.70			****		****		
kinville	Susqu'hanna			****		****		. 10	****					****		.08	.21	. 11	*				.78					. 43	. 65	. 14		
ner	do																															
sick Falls	Hudsondo						1		1	1	1	1					.10	.03						1.05	.52	.00		30	1.10			
ersonville	Delaware						.12	2		T.				T.			.11	T.	12			.07	. 62	.80	.33	T.			1. 27			
ertyle Falls	do						T.					T.			. 05		. 20		. 15	. 25	T.	. 20	. 15		1.70			. 17				
hanicsville [[Mohawk Hudson						.03			T.			Т.				T	.36	T.		T.	.15	1.26		.15		. 14		1.14			
onk Lake	do																					.40	.20	.80	.97			.25	1.14	.85		
ehouseville	Mohawk			. 06		1			1		1	. 02		. 05	5										.10			.70	1.55			
int Hope	Susqu'hanna Coast				****													****	. 25		****	.21	. 35	22	1.12				.90			
int McGregor	Hudson																															
vark Valley	Susqu'hanna do									.10									.17			.12				. 2!			1.09			
v Berlin [do											T.				01	35	.01	16	.01			. 34		.07			.08	1.56	. 66		
v York	Coast					T.				T.						.08	T.	. 03	. 20			.01	. 34	.81	. 52			. 05	. 47			
th Creek	Hudson																.14			. 05			*	.72					1.23			
thville []	Susqu'hanna						****										. 14		.15				****	1. 22		***			1.98			
onta	do										T.						. 16		.15						. 05			. 23	1.21			
ord	do						T.				T.			T.		T.	. 29		. 20			.30	. 38	1.13	. 23	. 08	8	. 21	. 93			
t Jervislyn	Delaware Coast								1	.00				.00		.02	.00	.09	.12	.15		.01	. 36	. 28	.33	100	8	. 08	. 68	. 13	3	
sbury	Monawk																. 65		. 41				1.04	1, 12	. 11			. 38	1.51			
sdale	Coast														T.			T.	.10					.50	90			. 14	. 25	. 40)	
burne	Susqu'hanna	T.		1			****			T.							. 13	T.	. 05				30	. 25	1.05	.00	3	. 08	79	T.		
thampton	Coast					1				T.							. 22	.42	T.	. 02		T.	. 28	.49	. 54	. 18	8	T.	. 26	. 47		
th Edmeston	Susqu'hanna										T.					T.	. 23		. 05			. 05	. 20	1.12	.10	0.0	1		1.40			
r Falls	Hudson Mohawk									****	****			****		.09	T.		T.			.17	39	1.15	.03	1	2		1.03			
eshill II	do																. 20		.10			.00	*	*	1.80)		*	2.20			
a	do																.10			.35			.70	1.20	.40				. 40	. 55	5	
ppinger Falls	Hudson						10			.01				10			. 02	.40	19	.08		T.	.02	1.69	.82		T.	. 08		.22		
rwick	do																		.27			.05	. 02	1.63	.38	3		. 08	.72	2		
verly	Susqu'hanna						.06	. 01		. 03						.01	.00		. 03			. 03	. 50	1.13	. 24	.0	4 .01	. 85	90	.01		
st Berne	Mohawk Hudson						T.			****	****			T.	7		T.		T.	19		T.	1.15	. 97	. 55	T.	3 .28	.43	. 98	3		
dham	Mohawk							T.														.11	.12	1.00	.50							
Pennsylvania.																-													1		1	
oona	Susqu'hanna					. 09	. 08								. 03	. 59	. 07		. 05			. 07	. 26	.76	. 01	.0	4	2.91	. 45	5	. 23	
onia	do																. 10	. 09	T.				. 24	. 59	. 76	T.			*	1.37	7	
tinhlehem	Lehigh												****			. 15	. 15	T.			T.	. 15	. 65	.75	T.	.0	5	. 8	. 65			
serville	Lehigh. Susqu'hanna Schuylkill						.02	2					****	T	.05	.06	.31	.06				.42	.03	1.26	1. 18	1	0	1.7	. 56	3	00	
wers Lock			1	1	1		1	1		1	1	1		1	1	0.7		1	00		1	1 10						100 10			T.	

TABLE 2.—Daily precipitation for May, 1913. District No. 1—Continued.

Stations.	Watershed.		1	1	1			-	-			1		1				nth.	-	-	-		-	-	1	-	-	-	-			_
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ennsylvania-Con.	-											-																				
atesville	Coast														.11		.21	. 50				. 09	. 56 1	.07	.42	. 05	.06	. 22	. 66		.05	
ovlestown	Coast Schuylkill						••••	••••		т.	• • • • •						••••	. 40	••••		••••	40	.50 1	. 75	. 58 .		.08	. 50	.74	••••		• • • •
riftonmporium	Susqu'hanna do						T.			T.				T.		.28						. 23	. 61	. 91	. 04	. US		1.03	. 92			
phrata	do														.11		. 03	.05	T.			.03	. 68 1	. 14	. 64	. 05		. 40	.11		T.	
verettorks of Neshaminy	Juniata Delaware	::::				****	****	****							.23	. 10		.04		. 18					. 29						. 00	
eorge School	do																	.31				.08	. 42 1	. 63	. 54			. 70	. 63		21	.10
ettysburgirardville	Potomac Susqu'hanna						••••	T.		••••				T.	.04	.08		T.				.02	T. 1	. 60	.22			.84	. 33	****	.01	. 10
ordon	Susqu'hanna doSchuylkill														T.	.15						.06	.01 1	. 13	.78	.04	.11	. 98	. 38			
amburganover	Susqu'hanna					• • • • •	• • • •	••••	••••	• • • • •			• • • •			0.5	74	45				.08	.34	. 08	. 51	••••	1.00	.87	.07			.17
arrisburg	Huntingdon.						T.							T.	.19	.02	.09	.05	T.			. 13	. 01 1	. 31	. 01	T.	. 22	.41	.87		.02	
untingdonyndman	Potomac	••••											****		.27	.26	. 04	12	••••		••••	.09	.30	. 65	.18	• • • •		1. 12 2. 95			.02	
ennett Square	Coast											.,		.11		T.	.83					. 19	.30	. 74	1.34	. 05	.12	1.05			T.	
ancaster	Susqu'hanna														.10			T.				.09	. 02 1	- 55	.66		. 20	.31	T.	T.		.07
ansdaleawrenceville	Schuylkill Susqu'hanna	****			T.	T.	T.															. 05	. 10	. 85	.35	T.		. 45	1.20			
ebanon	do														. 15	:		T.	T.			.03	.05	. 94	. 44			.48				
e Royewisburg	do					T.	.07	.02		.00	T.						-01		1.		****	. 25	.11	.89	.12	. 03		. 92				
lovd	do					.20	.15							T.		.30	. 20		I.			.02	.11	. 36		. 20		. 04	. 50			
ock Haven	Potomac	***				T.	T.			T.				T.		. 53	.40	.12	. 09			. 20	. 50	. 93	. 26			. 60			T.	
arion							.11									. 11	T.	T.	T.			.04	1	. 62	.17			.34	. 46			
fifflintown	Juniata Delaware														. 19	.05			••••		••••	. 29	.10	. 99	.21	• • • •		1.14			T.	05
Iontrose	Susqu'hanna						.04										.10		.08			.12	. 42	.85	45	. 02		. 35	. 56			
Iountain House	Juniata													m	.04	. 16	. 45					. 50	.07 1	. 25	.22	T.		1.52	1.58		.33	
Iount Gretna	do															. 03		.26				.01	. 34 1	. 25	.07			1.28	1.34		.10	
ttsville	Delaware																. 09						. 45 1	. 09	.39		. 05	.10	. 59			
hiladelphia ocono Lake	do												****		- 03	T.	.14	1.00	T.			.31	.74	. 65	. 26	T.	T.	1.04			Т.	
oint Pleasant	do																	. 13					. 49	. 90	. 45		.08	. 13	. 68			
oint Pleasant ottsville eading	Schuylkill						· · · ·							T	000	T.	T		T			.05	.36	L 69	.19	.09	T.	.80				
enovo	Susqu'hanna						. (16	1 (12)	1	1			1				. 44		. 08		****	T.	.30	.37	. 58		T.	. 59	. 83	. 0		
erantoneisholtsville	do		A Contract		1	1		1		1 01	11	1				.0	.01		T.			.07	.32	1.08	.01	T.	****	. 17				
elinsgrove	Schuylkill Susqu'hanns						• • • •	07		****					T	.24					****	25	.04	1. 12	99	T.	.10	07	.36			
hawmont	Schuylkill																. 04	. 33				.14	. 73	1.10	85			10	. 65			
hippensburg miths Corners	Susqu'hanna Schuylkill													. 0	2						• • • •	.10	. 40	. 75	1. 24			. 47	.74	.0		.20
pring Mount	do														0		.10	5				.05		1.10	. 48		. 03	.21	. 47			
tate College	Susqu'hanna					T.	T.	. 02							. 10	.2	. 33		T.			.05	.35	. 78	.02				1.08		10	
troudsburg unbury	Delaware Susqu'hanna						.0.	.00								. 2	T.					. 20	. 02	.03	.19	.04	T.	1.01	.31			
owanda	do						.0			.0	1					. 0	. 0		T.			T.	.28	1.12	. 20	. 01		. 82	.50)		
Veikert Vellsboro	do					13	1										0.0	2			••••	. 26	. 43	. 98	.16			2.00	.88			
Vest Chester	Coast														1 .10	0.0	1 .35	2 25	01		1	. 21	1.17	1.65	. 59		. 05	. 11	1.21	1 .0	1 .02	.01
Vilkes-Barre	Susqu'hanna										T.				2	T.	.00	6	.00	.18		••••	.05	. 69	1.20	T.	.02	. 22	.13	1 .1	9	
New Jersey.		1	1						1		1.				-	1.	1				****									1		
abane Dank	Coast						T.							T		T		. 12	1:			. 07	48	1. 32	. 92	.03	.06	. 01	2	2 .1	0	1150
tlantic City	do							. T.		1					0	3		74	. 0	5		. 23	. 01	. 76	1.11				. 35	9	. 1.1	
ayonne	do																. 0	6 .00	. 00	. 24		.08	22	. 652	. 88			. 15	. 5	0.1	4	
elvidere					1		T.			T.	1								2	2 . 24		T.	.30	. 23	1.41		T.	. 22	.7	5 .0	2	
oonton	Passaic																0.	I I.		. 15			. 07	. 15	1.40			T.	. 2	3 . 6	4	
ridgeton	Cumberland Delaware														-	T.	1.10 T	0 .3	. 4		****	. 24	. 62	. 93	1.15	.0	. 09	. 38	.0	9 .4	6	T
ape May City	Coast		1	1		1		1 7		1	1 0	(2)	1	1 7	1 0	11 . ()	I T	. 60	. 0	5		. 03	. 04	. 50	1. 55				. 9	7	. T.	.2
harlotteburg hatham	Passaicdo	1				1					· · ·						0	. 1: 5 T.	0	5 . 68	****								1.1	0 .6	0	
laytonulvers Lake	Coast																. 4	2 . 2	5			. 50	1.12	. 80	1.17							
ulvers Lake	Delaware						.1	7			. T.						0		T.	5		. 07	. 20	1.39	. 50	T.		.00	1.0		:	
lizabethlemington	Coast		1		1		T.	1	1	T.	1			0	1	T.	1.0	4 . 0	7 . 0	6 . 32		. 03	99	1 40	16	1		. 05	5 . 6	5		
lemington	do					. 02				T.				. T.		T	T.	1 .4	6 .0	2		. 07	. 22	. 36	1. 10			.11	.8	4 7		1 0
laddonfield	Delaware		-											. T.	.0	1			0 .2	0		. 24 . 20 T.	. 30	1.60		:::	. 20	. 0	.4	0 T		
lightstown lighwood	Coast						T.	1		T				. T.			0	3	. 0	T.		T.	. 21	. 50	01.37	1.0		.07	.4	9 . 0	2	
mlaystown ndian Mills	Delaware						T.							T	.0		:i	5 .46	0.0	1		. 15	.80	80	95		- 18			0		
ersey City	do						T.							. T.	.0	T.	.0	6 . 0	2 . 2	1		. 53 T.	. 18 1. 05	. 51	1.56	T.		. 06	. 5	0		
akewood	do						T.															. 15	1.05	1 50	7 . 75		18		.2	8	-	. T.
aytonittle Falls	Passaic					• • • • • • • • • • • • • • • • • • • •	.4	3		T			-			T.	T.	0.		8		.12	. 10	1.50	0 . 52 0 . 33 7 1. 57			. 18	.5	9		
ittle Falls ong Branch	Coast				. T.	T.	.0	01						T.			0	2 .1		7		. 05	1. 20	. 5	7 1. 57 5 1. 65	.0	1 .08	.08	.2	7 .0	8	
IahwahIoorestown	Passaic						.2	5							T	• • • • •		9 . 6	7 .0			. 24	. 10	. 76	1. 37				1.1	1 .0	4	
ewarkew Brunswick	Passaic																1	1 .0	2 .0	4 . 13	. 04		10	- 20	1. 37 2. 22	T.				. 5	9	
lew Brunswick	Coast							T.		·				- T.		0	5	1	3 .0	5 .01		.01	. 36	1.6	7 . 40	.0	4	.16	1.0		:	
lewton	Delaware Coast					1::::						:		1		7		. 4		1		. 14		. 19	9 2, 25				5	1 .0	2	1
aterson	Passaic						. 0	5		T.				T		T	T			.00	3	. 04	. 15	. 1!	5 1. 29			. 20	0 .5	0 .0	9	
hillipsburg Plainfield	Delaware									T						0	2	T	0	. 11	3	. 02	.18	1. 3	8 .63		.04	1	. 6	4		
leasantville	do														0	9		. 4	5 .3	1		. 23		. 10	2. 35				5	61 . (11	0
ompton Plains	Passaic							T.									0	2 T.		. 0			1.17	.00	8 1. 49 2 1. 97	.0	4	T.	.2	4 .	8	
omervilleouth Orange	Coastdo									T				T		T	T	T.0	0.0	1 1	3	T.	. 53	1.4	0 2. 35 8 1. 49 2 1. 97 0 . 48 6 . 40 8 1. 65 6 2. 26 0 2. 30	.1	0	11	1 . 4	8		
U890X	Hudson						. 0	2																1. 5	0 .48			. 10	01.7	8		
mam dam	Delaware						T.									. T	T	. 2	9 T.			. 06	. 55	1.10	6 . 40 8 1. 65 6 2. 26	.0	3	. 1	1 . 4	33		
rentonuckerton	Coast												1				1.1	OI . 1	mi . I	mi .												

Table 2.—Daily precipitation for May, 1913. District No. 1—Continued.

Stations.	Watershed.	_]	Day	of me	onth				-										
	W decision.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
West Virginia.	-				T			1																				-				
	D-1	1	1	1	1 00	1	1 -			1	-			-																		
Bayard	Potomac				- I.		. 2	4			. T.			T.	1.08	. 35	. 03	. 34				. 58	. 46	1.18	. 18		T.	1.07	. 53		1.86	T.
urlington	do														. 43	1.00		. 25				. 40	. 35	1.45			*	2. 10			1.10	
ranklin	do																											-			21.20	
Jarners Ferry	do		1	1				1							0.5	20	46	19	26			- 1	1	1	Q1	1	1	41	79	****		11
oet City	710				1										621	70	02	0.2				20		1 00								
artinshurg	do		1	1000	-			1							40	35	. 00	50				10	26	*	. 00		. 03	1 00	****	****	- 66	- 10
Correfield	do		1												. 10	. 00		. 00				. 14	. 90	-	. 90		-	1.00	****	****	. 20	
fartinsburg	do	****																		****			****									
pper Tract	do							. 08							. 82	. 20	. 10	. 20	. 08					1.50	. 10			. 60			. 80	. 50
Maryland.																															-	
nnapolis	Coast										. 10				. 20	. 38							. 38	2.00	. 73				. 08		Т.	T.
altimore	do									T.					. 11	T.	. 04	. 32		-		46	04	1.58	49		. 02	01	11		. 01	
mbridge	do						. 0	7				1	1		.00	-		41	11			35	40	19	1 08			. 01	26		.01	
eltenham	de			1		1	1		1	1	02			1	30	. 05		25	04	05		. 00	1 10	9 00	1 00	****		****	. 20	****		
estertown	de			1							. 00	****	1	T	T	. 00	61	T	. 01	. 00			00	1 00	1 10	****		. 45	. 28			
estertown	Potomoo		1				T			m				1.	10	90	10	0.0				10	. 93	1.00	1. 18	****	****	T.	. 08		T.	
owsville	de		****				1.			1.		****				. 22	1.	. 20				. 10	. 90	1. 04	****				. 16		. 14	
ear Spring	do		****												T.	. 42	. 43	. 05				. 05	. 20	. 40	1.13			. 83	1.28	. 02		. 41
leman	do														T.		T.	. 20					1.28	. 67	1.30						. 08	
llege Park	do							Т.			. 03					. 12		. 60	. 34				. 26	. 51	2. 23			. 04	. 47		T	. 04
mberland	do														. 44	. 12	. 13	. 40				. 41	. 11	1. 15	. 65		T.	1.06	. 40		1	. 30
rlington	Coast			1		-									T.	T	. 40	38	T			99	78	1 69	75	****	T	Th.	30	****	T	. 00
nton	do			-		1				1		1			. 11	0.0	. 20	2 19	06				96	E.C.	1 05	****		1.	. 20		1.	. 13
ston	do	****													12	. 00		43	. 00				. 20	. 00	1. 90	****	****	****	. 25			
	Determos					****									. 14			41	. 03	. 03			. 30	. 88	1. 73				. 12			
mitsburg	Potomac	****														. 22	. 11	. 50	. 30				. 25	. 50				1.00	. 35		. 30	
llston	Coast						T.	T.								T.	. 08	. 21	. 01			. 13	1.32	1.04	. 63			. 07	. 18		. 01	. 20
derick	Potomac						T.				T.				. 25	. 34	. 01	. 48				. 01	. 26	. 61	. 39			. 44	. 50			
stburg	do														. 53	. 43	. 02	. 50				. 51	40	1.00	10		. 13	1 73	20		. 68	
een Sp'g Furnace.	do						1							10000	. 21		. 06	32				18	30	1 11	20			1 20	1 00	****	.00	
edvsville	do														27	. 26	. 14							70	. 00	****	700	1. 20	1,00	****	. 50	
ke Montebello	Coast		****												- 21	. 20		. 31	. 00			.00	. 38	. 10	. 29		T.	. 53	. 24		. 21	
ke Montebello	Coast														. 03		. 03	*	. 32			T.	. 69	1. 45	T.			. 01	T.		. 02	
urel	do										. 02				. 25	. 02	. 03	. 80	. 02				1.60	1.40	1.05			. 20	. 50	. 02	. 03	
onardtown	do														. 20		. 07	. 73		. 11 .			. 17	. 32	1.65				. 35			
nrovia	Potomac										T.				. 28	. 15		. 78				T.	. 40	. 80	. 71			. 35	. 16		. 40	
comoke City	Coast														. 06			. 23	. 16				-	-	81				02			
	do									1					.07	-	.03	37	33				14	T	00				1.08	****		
ckville	Potomac								1	57					33		. 00	25	. 00				69	2.	0 00	****	****	1.	1.00	****		
	Coast									. 01					17			97	02		01		. 00	00	4. 20	****		****	. 32	* * * * *		. 04
omons.	do			****				m		****					. 17		04	. 31	. 03		. 01	00		. 08	1. 10			****	. 40	. 02	T.	
OHIOHS.	do							1.							. 09		. 04	. 59				. 06	. 30	. 28	1.24			T.	. 23		. 02	
te Sanatorium	Potomac																															
ilersville	Coast													T.	. 01	. 03	. 08	. 31	. 02				. 43	. 88	. 58			. 02	. 16			.14
koma Park	do										. 08					. 32	. 06 .		. 80				. 21	25 5	2.35		-	. 08				. 14
wson	do														. 07		. 11	97	02				46 1	30	60	****		. 07				
n Bibber	do														. 02	. 02	. 05	. 24	. 02			04	. 92 2	00	26			.04			1.	
stern Port	Potomac															70			00			. 04	. 92 2	. 03	. 30		****		. 10		2:22	****
sternington	Const.														. 80			. 68	. 02				. 42 1				. 15				1. 75	
stminster	Coast																. 28	. 26	. 02				. 43 1					. 90	. 32			
odstock	do														. 16 .		. 02	. 28				T.	. 35	. 75	. 78			. 35	. 13		. 05	
																					1										1	-
Delaware.								Ì										1		7		- 1							- 1			
aware City	Coast	1						T.						T.	T.	T	T.	20	25			T .	. 26 0	70	60		T.	T	. 74		m	. 79
ware City	do							T			T			T.	. 05	m	. 05	. 84	. 00								1.	1.				
ford	do			****				1.		****	1.			4.					100			. 10	. 60	. 15	1. 50	****						. 07
ford	40		****	****	****	****		****				****		****	. 02	***	. 02 1	. 03	. 10			***	. 17	. 07	5. 04				. 29			
lsboro	do																. 20	. 90					. 25 .		1.05				. 78			
ford	do					. 01									. 12	T.	T.	58	. 04				. 22	. 20 1	1.80				. 41			
mington	do						****			• • • •		••••					. 62					. 69	. 74	. 50 1	1.30			. 10	1. 25			
trict of Columbia.																1	-															
shington	Coast							T.		. 02					. 29	T.	T. 1	. 04 .				. 13	. 02 2	2. 34	. 42		. 01	. 09	. 14		. 05	
Virginia.																												-		-		
	Dom?hom?le																		1							1						
e Enterprise	Rap'han'k Shenandoah						****	.06		****	.01				. 16	.20	. 16	. 40 .				. 16 .	4	. 00 .				. 67			. 50 1. 00	
EVILIO	Coast.							. 03		. 10	1.02				54.31		18	75.58	- 1			100	10	11	971			10	1 55	201	En:	
dericksburg	Rap'han'k					****		TH		. 10	1.02				20	***	14	AC.				. 10	90	20	1 00	****		14	40	. 00	.00	0.00
coln	Potomeo				****	****		I.	****				****		. 20 .	00	. 14	. 40 .				9.0	. 22	. 33 1	L. 00	****	****	. 14	. 42		. 19	.01
ent Waather	Potomac		****					****		****				****	. 74	. 09 .		. 98 .				. 12 .	1	. 65 .		****	. 25	. 95			. 51	
unt Weather	do			****				T.		. 02				T.	. 40	. 08	T.	. 37 .				. 10	. 01 1	. 80	. 07		. 34	1.16	.02		. 25	
ntico	do														. 03		. 02	. 42 .			2	. 37	. 53	* 4	1.97			T.	. 11		T.	
unton	Shenandoah						. 04	. 04			. 01				. 05	. 07	*	. 47			T.	. 08	*	. 47 1	. 05			. 31			. 90	
etnam	Potomac														. 37			.30	. 08				. 26 1	. 30 1	. 73			. 22	. 21			
rsaw	Shenandoah Potomac Rap'han'k Potomac Shenandoah		-					T							03		08	60	- 40	10		10	20	15 1	60			20	45			
	Potomoo							1.					****		40	00	. 60	00 .		. 10 .		20	. 06	. 10	. 00			. 90	. 20		****	
chester																																

^{*} Precipitation included in that of the next measurement.

‡ Separate dates of falls not recorded.

‡ Precipitation for the 24 hours ending on the morning when it is measured.

† Precipitation is less than 0.01 inch rain or melted snow.

Table 3.—Maximum and minimum temperatures for May, 1913. District No. 1, North Atlantic States.

						Mai	ine.						Cone	ond			М	assacl	husetts				Pro	vi-	0	connec	eticut.	
Date.	East	port.	Green	ville.	Ore	ono.	Portl	and.	Pres	sque le.	Rum		N.		Amh	erst.	Bost	on.	Mide		Nantu	cket.	den R.	ce,	Crea		Hartf	ord.
	Max.	Min.																										
1 2 3 4 5	45 55 70 51 56	32 33 42 39 40	62 77 70 67 78	32 34 48 40 36	62 69 76 76 66	32 32 45 40 37	62 56 63 50 56	39 40 43 42 42	62 62 64 68 80	28 29 33 45 45	70 78 86 68 75	34 40 48 46 42	71 87 88 67 82	35 38 45 45 45	74 88 89 76 76	33 44 53 54 56	57 66 77 53 78	44 46 50 48 48	65 70 82 73 71	32 34 41 47 37	53 58 69 59 63	40 40 46 44 45	70 56 86 67 60	42 45 48 48 47	69 82 84 70 74	40 54 59 58 51	74 88 90 74 72	42 50 61 55 55
6 7 8 9	58 48 55 45 42	41 42 38 38 34	83 60 53 50 40	42 44 30 35 28	78 79 70 61 55	40 46 33 35 35	64 61 56 59 48	44 48 40 46 39	87 87 57 50 45	48 46 29 33 30	83 64 60 58 40	47 46 34 40 36	86 69 64 63 45	46 46 39 44 37	87 71 68 62 49	52 50 38 46 32	77 70 56 64 50	53 52 47 47 39	74 70 58 58 58 57	47 52 38 38 34	62 65 52 54 51	45 50 42 42 42 39	65 71 62 59 48	50 52 45 44 36	84 67 65 59 42	62 53 43 40 31	86 70 66 62 49	52 52 44 47 36
11 12 13 14 15	47 55 53 51 53	36 39 38 35 30	46 56 63 52 49	30 34 29 38 30	48 61 68 66 61	32 32 29 47 27	51 61 62 63 53	38 39 40 47 40	45 57 64 63 47	32 30 26 38 25	51 60 65 56 57	35 33 32 42 31	52 62 66 63 63	35 29 33 41 37	56 65 68 69 61	30 31 42 46 34	55 64 68 71 65	37 42 48 49 44	56 60 63 71 65	31 31 35 46 30	52 56 59 68 55	39 45 44 48 47	54 62 64 70 58	34 40 45 50 43	51 61 58 65 58	27 31 40 45 36	55 63 66 68 62	34 41 42 50 41
16 17 18 19 20	48 50 48 59 57	33 34 36 40 42	53 61 49 52 48	30 30 33 34 38	58 63 55 61 62	26 32 28 36 42	46 47 51 61 61	38 37 39 40 46	59 51 50	22 25 35 40 32	42 58 53 57 56	36 40 36 42 43	53 59 58 60 64	38 39 41 36 43	51 56 60 60 67	43 42 46 44 37	55 50 52 66 68	41 41 46 51 47	53 59 63 66 66	43 41 39 47 36	61 52 54 62 62	45 44 44 50 48	52 57 63 64 65	42 41 44 50 45	63 52 58 60 65	42 38 42 38 44	52 55 66 63 67	41 41 41 50 41
21 22 23 24 25	57 48 47 49 55	39 40 40 43 40	62 54 60 57 62	33 41 41 45 45	65 65 56 59 63	33 45 44 49 44	59 50 55 59 57	46 45 44 46 46	50 57 67	32 42 45 41	68 52 64 57 65	35 48 48 53 50	66 52 62 60 67	37 47 48 49 47	65 57 64 64 70	37 49 54 55 50	62 57 59 58 62	51 50 48 52 48	70 67 65 59 72	36 48 52 51 49	64 60 60 62 57	49 49 55 49 49	67 64 65 58 71	46 49 55 53 52	62 61 62 63 70	41 44 53 50 45	69 61 66 66 73	4 5 5 5 5 5
26 27 28 29 30	45 55 51 52 60 61	42 43 44 45 46 44	57 61 51 52 56 65	43 32 41 46 44 40	64 59 57 60 60 65	46 41 44 51 47 39	60 46 50 60 67 72	45 43 43 49 50 51	64 64 62 57 55 58	45 36 46 50 44 37	60 60 54 58 64 66	44 39 46 50 49 50	65 56 54 61 72 73	43 40 45 50 49 43	70 56 54 62 74 76	41 46 49 49 46 44	62 58 52 65 75 76	50 48 46 51 51 56	68 64 56 66 72 78	43 37 45 49 47 40	60 53 57 60 63 74	49 46 46 50 52 50	66 65 53 65 72 78	48 47 46 50 50 53	63 57 59 62 70 73	38 41 43 45 42 47	68 60 54 66 74 76	4' 5' 5' 5' 5' 5
Mns	52.5	39.0	58.3	37.0	63.5	38.0	57.0	43.1	60. 8d	36.5	61.5	41.8	64.8	41.6	66.6	44.3	62.8	47.5	65.7	41.2	59.3	46.2	63.8	46.5	64.2	44.0	67.1	48.
	New I	Iovan	/-					New	York.				,							Penn	sylvan	ia.					Atla	ntic
Date.	Cor		Add	ison.	Alb	any.		ham- on.		dian ake.		ttle	New	York.	Eve	rett.	Har	rris- irg.	Philiph		Scrai	nton.	Coll	ate lege.	Well	sboro.	City,	
	Max.	Min.	Max.	Min																								
1 2 3 4 5	74 86 90 70 65	46 50 52 54 52	80 85 91 91 89	33 45 41 47 53	74 86 89 84 79	43 55 54 55 60	75 81 86 88 84	36 48 48 52 61	71 80 83 85 86	30 45 39 35 47	70 79 84 90 85	39 54 56 54 53	76 87 88 76 69	46 66 68 58 54	77 83 88 89 88	38 42 42 47 48	78 88 88 88 78	47 58 56 59 56	78 87 90 88 81	50 64 69 57 55	76 83 85 90 86	41 55 52 58 57	78 83 86 87 86	44 57 52 55 61	79 84 87 89 84	33 37 39 45 55	75 85 89 76 66	4 5 6 5 5
6 7 8 9 10	72 72 66 62 51	52 54 46 48 36	85 65 70 65 50	50 44 31 43 30	84 65 64 62 48	62 50 42 45 37	85 56 65 58 40	55 42 33 38 34	82 75 62 59 48	42 45 23 42 27	81 63 63 56 44	60 52 32 44 33	81 71 64 65 53	60 54 51 49 39	85 67 66 65 64	53 55 50 °49 29	83 68 68 67 54	61 53 47 52 40	87 72 68 71 54	60 56 50 50 40	84 62 69 61 43	59 46 40 43 36	79 68 68 61 53	60 50 35 51 32	82 61 69 64 50	51 44 30 46 30	69 70 57 72 59	5 4 5 4
11 12 13 14	64 70	35 42 47 51 44	60 67 74 65 65	25 26 44 42 34	56 66 67 69 57	34 35 45 48 39	47 60 70 60 59	32 30 46 40 34	48 61 60 59 61	26 20 31 44 17	50 62 58 60 55	34 33 42 40 32	55 65 66 71 60	36 42 49 54 51	55 65 70 75 66	28 27 30 35 48	57 64 77 70 64	38 39 50 53 49	56 65 73 72 70	39 43 50 58 52	50 61 73 63 62	34 33 47 49 40	53 63 72 67 69	32 34 47 47 42	52 64 75 65 59	29 25 42 41 37	57 60 62 71 59	33 55 55
16 17 18 19 20	54 63 66	47 45 49 50 42	81 75 76 68 71	50 45 53 35 31	70 57 62 60 66	48 49 49 48 45	74 60 68 57 62	50 45 50 41 35	54 62 65 62 60	38 43 42 40 31	65 62 65 55 61	43 43 45 42 37	78 54 67 65 65	53 47 47 53 50	77 70	46 36	78 66 74 70 69	56 49 49 54 45	83 66 69 71 69	61 48 48 56 54	78 58 70 61 65	56 48 48 48 48 38	76 67 72 62 68	52 51 50 45 37	80 78 75 66 69	47 45 34	84 67 63 69 61	5 5 5
21 22 23 24 25	66	47 52 57 56 53	67 67 67 63 65	37 57 56 48 38	64 63 62 59 70	43 52 57 54 51	59 69 61 60 63	39 56 54 51 44	61 62 60 69 60	26 40 49 50 35	58 66 65 59 63	39 48 54 49 43	61 73 70 66 72	54 54 55 54 52	72 72 67 61 70	45 58 54 50 43	63 75 66 65 73	52 55 58 53 51	66 80 76 67 75	53 56 50 58 55	61 73 65 60 64	45 56 55 53 48	65 78 66 60 68	48 58 53 47 46	62 70 67 62 63	37 56 55 46 37	59 67 65 63 73	5 6 8 8
26 27 28 29 30	68 57 55 67 76 79	48 51 50 50 49 52	67 60 63 68 74 76	36 50 52 42 36 36	64 56 54 64 71 76	44 49 50 51 48 52	64 58 55 60 67 69	39 49 48 48 44 46	65 64 53 52 68 69	32 33 42 43 47 41	65 52 52 57 64 68	36 48 48 52 41 49	69 58 55 67 74 78	52 49 48 53 53 58	70 66 68 71 67 76	55 55 53 46 37 47	70 68 64 75 65 82	54 54 54 54 51 49	70 73 59 73 74 82	57 57 55 54 57 58	68 58 57 63 70 75	45 50 49 50 48 50	69 62 67 68 62 77	46 52 53 50 46 47	65 62 62 67 72 75	37 51 52 40 34 41	61 64 62 73 77 81	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
	1 60	100	10	00	10	0.2	00	40	09	41	0.3	1 30	10	1 60	1 .0	1 71	0.0	70	1 02	- 00	1 .0	1 00	1	44	1 10		0.1	

TABLE 3.—Maximum and minimum temperatures for May, 1913. District No. 1—Continued.

				New	Jersey.					tins-				Mary	land.				Mills	hore	Wes	hing-			Virg	inia.		
Date.	Bridg	geton.		llips- irg.	Sus	ssex.	Tre	nton.	W.	Va.	Balti	more.	Dari	ling- n.	Fred	erick.	Wes	tern- rt.	D		ton,		Fredebu	ericks- rg.	Stau	nton.	Wo	ood- ek.
B-42	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1 2 3 4 5	88 91	40 53 51 54 54	79 88 91 84 79	41 55 54 53 57	76 87 88 88 88 78	42 59 51 51 58	77 87 90 79 78	46 59 63 54 53	89 93 95 95 90	45 42 50 54 56	79 88 91 89 75	49 65 62 62 55	77 86 89 89 89 78	41 55 52 54 52	80 89 92 92 87	38 46 49 51 53	82 91 90 90 90	39 44 46 51 50	70 82 87 88 81	42 53 52 56 52	80 87 90 90 86	44 52 55 55 55 55	79 87 88 90 87	44 44 51 52 52	81 88 89 89 90	39 46 48 51 47	82 89 90 90 89	39 43 46 50 49
6 7 8 9 10	89 72 73 77 64	54 58 46 45 44	90 84 63 66 62	55 54 50 45 38	87 70 69 63 56	55 52 38 47 36	88 71 68 67 53	60 54 48 48 38	85 74 77 79 59	57 59 44 46 41	85 73 69 76 63	60 58 50 53 43	84 77 69 71 64	52 56 45 46 41	86 77 73 77 65	55 58 42 47 43	81 76 78 73 61	58 56 38 43 36	84 70 64 75 64	55 60 51 54 48	84 72 73 76 60	54 54 46 54 42	86 79 71 76 72	53 58 47 51 58	81 63 73 80 67	58 56 40 46 45	85 76 75 79 69	56 59 37 45 43
11 12 13 14 15	60 69 75 70 77	33 33 47 53 46	56 68 75 73 68	34 33 46 52 42	56 65 71 71 63	32 32 42 49 40	56 64 71 72 69	34 38 50 55 48	61 70 81 63 72	37 33 36 50 52	58 66 82 67 70	40 44 50 57 55	58 66 76 74 72	31 33 46 52 47	61 67 83 74 74	34 30 45 54 51	62 70 82 71 63	31 30 40 50 53	58 65 79 66 75	38 34 45 54 48	58 68 82 63 75	38 37 50 55 53	60 67 83 77 77	34 34 44 54 51	65 70 79 72 79	31 31 40 56 50	63 70 79 66 78	35 30 42 52 52
16 17 18 19 20	85 63 75 74 70	57 51 48 52 43	83 74 73 70 69	51 49 46 50 39	82 70 70- 66 72	50 48 46 48 35	81 53 69 68 68	52 47 46 53 45	85 61 80 77 72	52 60 51 51 46	82 66 70 73 67	59 52 52 58 55	84 63 71 71 69	59 50 47 51 42	84 70 78 74 70	55 55 51 52 46	77 66 80 72 74	53 57 55 45 42	84 65 70 71 65	62 54 51 56 50	80 67 77 72 70	60 54 52 55 53	81 69 77 74 71	57 58 53 57 56	78 66 81 79 76	59 59 55 51 51	78 67 81 76 72	56 57 54 49
21 22 23 24 25	66 84 81 75 78	49 58 69 57 49	63 75 73 67 74	42 53 59 55 46	64 68 66 65 70	37 66 59 54 45	62 79 75 65 73	49 54 57 55 51	71 81 61 70 80	50 54 61 54 47	71 82 75 70 76	55 63 60 58 54	64 77 75 67 75	48 57 58 54 50	77 84 69 70 78	50 63 61 55 48	68 70 65 62 74	50 60 55 52 44	77 80 83 73 72	54 65 66 59 52	77 82 76 68 77	54 65 59 56 53	84 83 78 66 74	55 65 63 55 50	86 79 70 66 73	56 65 62 52 43	80 79 75 66 77	52 61 59 54 45
26 27 28 20 30	75 76 66 76 78 82	55 52 57 48 45 51	73 69 58 70 77 80	49 51 49 48 45 45	72 62 54 66 75 77	45 50 49 48 46 45	71 68 56 70 73 80	53 53 51 52 50 56	79 68 78 77 77 77 82	53 58 59 50 55 52	72 72 67 78 73 81	59 60 58 57 57 57	71 73 66 75 70 80	51 55 57 51 45 51	74 70 71 80 73 82	54 58 59 52 50 51	76 63 73 76 77 81	49 56 55 46 58 54	69 74 70 74 77 77	56 58 58 52 48 59	73 71 69 77 75 80	60 63 57 55 57 58	75 69 69 78 80 79	58 62 58 54 58 59	75 65 75 77 83 89	55 58 56 52 60 61	77 67 72 77 81 81	55 60 58 49 59 60
Mean.	73.4	50.1	73.4	47.9	70.5	46.6	71.0	50.7	76.8	50.2	74.4	55.4	73.4	49.3	76.8	50.2	74.6	48.3	73.8	53.0	75.3	53. 4	77.0	53. 1	76.9	50.9	77.0	50.

a, b, e, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning, the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR MAY, 1913.

DISTRICT NO. 2. SOUTH ATLANTIC AND EAST GULF STATES.

CHARLES F. VON HERRMANN, District Editor.

GENERAL SUMMARY.

The weather conditions, especially with reference to the element of temperature, were rather diversified in various portions of the district during May. For instance, although the warmest weather for the month occurred on the 3d to 5th in Virginia and North Carolina, in the remaining portions of the district the 30th and 31st were the warmest days, and in Alabama a warm spell occurred on the 19th, which was not felt at all in adjoining States. Again, a decided cool wave, with temperatures slightly below freezing as far south as eastern North Carolina overspread the northern portion of the district on the 11th and 12th, which was slightly felt in northern Georgia, while over most of the district the 1st was the coldest day, and in Mississippi and Alabama a marked cool spell occurred on the 24th and 25th. The average temperatures for the Mississippi area, Florida, and southern Georgia were slightly below normal; in the remainder of the district they were slightly above normal.

The drought that prevailed in several sections during the latter part of April continued during early May, hardly relieved by the scattered showers that fell during the first decade, until the more general rains set in about the middle of the month. The precipitation was generally below normal, except in the Virginia and Mississippi areas, the deficiencies slightly exceeding an inch in South Carolina, Georgia, and Alabama.

A few severe thunderstorms were reported during the month with hail and unusually high wind velocities.

High atmospheric pressure prevailed steadily from the 1st to the 15th, with the maximum for the district, 30.35 inches at Hatteras, N. C., on the 5th. During the remainder of the month the district came under the influence of several areas of low atmospheric pressure of moderate force, especially that central between Atlanta and Asheville on May 23, which extended on the following morning as a depression along the Atlantic coast from Jacksonville, Fla., to Eastport, Me., and the storm over eastern North Carolina on the 28th, which gave the lowest pressure for the month, 29.63 inches at Hatteras. The unusually severe local storms at Norfolk on the 30th and at Atlanta on the 31st appear to have had little to do with the distribution of pressure, but were caused by unstable atmospheric equilibrium due to intense heat.

TEMPERATURE.

The mean temperature for the district as a whole was 70.9°, or 0.2° below the normal, but this resulted from the fact that the deficiencies of over a degree in Florida and Mississippi slightly overbalanced the small excess for the month registered in other portions of the district. The monthly mean temperatures at individual stations generally ranged between 65° and 75°. The extremes were Key West, Fla., 77.8°, and Hot Springs, Va., 61.8°. Over the southern portion of the district the 1st was generally the coldest day in the month, except that in Alabama and Mississippi a marked lowering of the tem-

Alabama and Mississippi a marked lowering of the temperatures occurred on the 24th and 25th. The remainder of the first decade was comparatively warm, especially so in Virginia and the Carolinas, where the highest temperatures for the month were registered from the 3d to 5th. The succeeding change to cooler weather culminated on the 11th and 12th in the northern portion of the district, with temperatures of from 30° to 44°, making this period one of the coolest for May in the climatic history of Virginia and eastern North Carolina. The line of freezing temperature extended southeastward to the headwaters of the Roanoke and into eastern North Carolina. Light to heavy frosts, apparently without causing much damage, occurred on the 11th or 12th at numerous stations in Virginia and North Carolina, but the low temperatures retarded the growth of vegetables. No frosts occurred elsewhere in the district.

Another period of moderately cold weather prevailed from about the 23d to 26th, with the lowest temperatures for the month on the 24th in Alabama and Mississippi. The remainder of the month was warm and very high temperatures were general on the 30th and 31st, reaching 90° in all sections, and exceeding 100° in South Carolina, Georgia, and Florida. In Georgia previous records for high temperatures in May were broken at several stations. The maximum temperatures ranged from 102°, at Statesboro and Dublin, Ga., on the 30th or 31st, to 94° on the 3d, at Callaville, Va. The minimum temperatures were slightly below freezing on the 12th in Virginia and eastern North Carolina, with the lowest, 30°, at Lassiter, Va., but were generally not below 40° in other portions of the district.

PRECIPITATION.

The average rainfall for the district was 3.59 inches, which is 0.34 inch below the normal. The rainfall was below normal in all portions except western North Carolina and Virginia and the Mississippi areas, where there was a moderate excess. The largest amount for the month was 9.75 inches at Laurel, Miss. The total for the month exceeded 9 inches, also at Cochrane, Ala., Fort Lauderdale, Fla., and at Hampton, Va. The least amount occurred at Charleston, S. C., and Eastman, Ga., 0.19 inch.

As a rule, only light, scattered showers occurred during the first decade, but after the 15th the rainfall was more copious and general, the largest amounts occurring in the northern portions of the district on the 16th to 17th, 24th and 27th to 28th, and in the southern portions on the 21st to 24th. The maximum rainfall in 24 hours exceeded 2.50 inches at comparatively few The greatest 24-hourly rainfall for the district was 5.20 inches at Cochrane, Ala., on the 21st-22d. The average number of days with appreciable rainfall was 7.

The drought that began about the middle of March continued in nearly all sections of Georgia until broken by the general rains of the 17-24th. Previous to the 17th no appreciable rainfall was recorded at Americus for 30 days, at Butler and Marshallville for 34 days, and at Valdosta for 48 days.

MISCELLANEOUS PHENOMENA.

The prevailing winds for May were from the south-west or west in all States in the district, except Mississippi and Florida, where they were respectively from the south and east. The wind movement was fairly high, south and east. The wind movement was fairly high, the average hourly velocities exceeding 10 miles at Norfolk and Cape Henry, Va., Hatteras, N. C., Charleston, S. C., Atlanta and Savannah, Ga., and Penisacola and Sand Key, Fla. Velocities exceeding 40 miles an hour occurred as follows: Norfolk, Va., 62 miles, from the north, on the 30th; Cape Henry, 44 miles, northwest, on the 7th; Atlanta, 60 miles, northwest, on the 31st.

The average number of clear days for the district was

18, partly cloudy 7, cloudy 6, and rainy days 7.

The percentage of sunshine was fairly high at all stations, with a maximum of 84 per cent at Charleston, S. C., and a minimum of 64 per cent at Hatteras, N. C. The average number of hours of sunshine for the district was 318, which is 74 per cent of the possible amount.

SEVERE LOCAL STORMS.

Norfolk, Va.-A severe thunderstorm attended by violent gusts of wind occurred on the evening of May 30. The storm moved from north to south and the wind attained a maximum velocity of 62 miles an hour from the north at 6.12 p. m. Several manufacturing plants were badly damaged and over 60 small buildings in Berkley, South Norfolk, and along the river were more or less injured. The total damage is estimated at \$75,000.

South Carolina.—During the afternoon of May 27 a tornado caused considerable damage at Honea Path, Anderson County, S. C., but no one was killed.

On May 10, during a heavy rain and wind storm near James Island, hailstones as large as partridge eggs were reported to have fallen, causing considerable damage to trucking interests. Four people were drowned by the capsizing of a boat during the squall.

Serious damage to a cotton plantation on Wadmallaw Island resulted from a hailstorm on the 28th in that

Georgia.—Atlanta: A severe thunderstorm prevailed on the afternoon of May 31, which seems to have covered a very extended area. The remarkable feature about the storm at Atlanta was the duration of the high wind. For half an hour, from 3.55 to 4.25 p. m., the wind ranged from 50 to 60 miles an hour. Several large plate glass windows were shattered.

Similar severe storms occurred about the same time at West Point and Dublin, Ga. At Dublin lightning set fire to several houses, the largest one being the commissary of the Oconee Cotton Mills, which was burned to the ground; loss, \$2,000. The display of lightning was particularly impressive.

RIVER CONDITIONS.

Moderately high stages occurred in the James River on the 24th and 25th, with crest stages of 23.4 feet at Columbia, Va. (flood stage 18 feet) on the 24th, and of 12.5 feet at Richmond, Va., on the 25th (flood stage 10

The mean stages of the rivers in North Carolina were below the normal for May. A moderate flood occurred in the Roanoke on the 24th to 27th, the river rising to a maximum stage of 36.2 feet at Weldon, N. C., on the 27th (flood stage 30 feet). Warnings were issued and no damage to property resulted. Estimated loss by suspension of work about \$2,000. Cattle were driven out of the lowlands without loss, resulting in a saving of about \$5,000.

The rivers in South Carolina, Georgia, and eastern Alabama did not attain flood stages at any point. In the Pedee River a sharp rise beginning on May 24th gave a stage of 22.2 feet at Cheraw, S. C., two days later, and the river continued above normal to the close of the month.

Low stages prevailed in the Tombigbee and Black Warrior Rivers until about May 23, when a rapid rise was reported as a result of the heavy rains that commenced May 21. A crest stage in the Black Warrior River at Tuscaloosa of 45.5 feet occurred at noon on May 24. The stage of the Tombigbee River at Demopolis was 30.8 feet on May 25, when warnings were issued for a rise above the flood stage in about 2 days. The crest stage was 35.4 feet at 5 p. m., May 27. Some of the lowlands on Black Warrior River below Tuscaloosa were flooded, with a probable loss to crops of about \$4,000, and a loss due to the suspension of farm labor of about \$200. A loss estimated at about \$500 was also sustained by the flooding of farms on the Tombigbee River below Demopolis.

The rivers in Mississippi located in district No. 2 were relatively low throughout the month, excepting the Chickasawahay River, which reached flood stage at Enterpise on the 24th and at Shubuta on the 26th, with crest stages of 18.6 and 25 feet, respectively. This together with a moderate rise in the Leaf brought the Pascagoula at Merrill up to 17 feet, or within 3 feet of flood stage on the 29th.

The West Pearl River at Pearl River, La., began to rise near the close of April and reached a stage of 13.8 feet on May 3, or 0.8 feet above flood stage. A second rise occurred on May 27 to 12.3 feet. No material damage resulted from the floods in Chickasawahay or Pearl Rivers.

SEVERE HAILSTORM ON JAMES ISLAND, S. C.

[By J. H. Scott, Local Forecaster, Charleston, S. C.]

A hailstorm of more than usual severity, accompanied by heavy thunder and high winds, visited James Island, a few miles south of Charleston, S. C., at about 4 p. m., May 10, 1913. The storm moved from west to east across the center of the island, bearing slightly to the north. The hailstones were small, being described as about the size of partridge eggs, but were sufficiently numerous to cover the ground in places to a depth of 3 or 4 inches. There was very little rain with the hail, and notwithstanding the fact that the afternoon was comparatively warm, it was several hours before all the hailstones were melted. In the region of greatest damage, which was about 1 mile in width and 3 miles in length, both the cotton and the truck crops suffered severely, necessitating replanting in some instances. Young beans were knocked from the vines and the bean leaves were riddled, while cucumber vines were cut in pieces. The plantations of H. H. Ficken, James Frampton, J. A. Lawton, and W. M. Frampton seem to have suffered most. The material damage is overshadowed, however, by the toll of human life taken by the storm. One man and 5 children, all negroes, were fishing from a small boat on the beach front when the storm struck, sweeping the boat rapidly off shore. The occupants, becoming frightened, jumped from the boat, and only 2 of them succeeded in their battle against the waves, the man and 3 children perishing. The father of the drowned children was in Charleston buying food and presents for them, and upon returning home was so stunned by the disaster to his family that fears for his life were entertained.

TABLE 1.—Climatological data for May, 1913. District No. 2, South Atlantic and east Gulf States.

			rears.	Temp	erature	, in d	legre	es Fah	renh	eit.	Prec	ipitation	, in inc	ches.	days		Sky.		direc	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day	Number of clear days.	Number ofpart-	Number of cloudy days.	Prevailing wind tion.	Observers.
Virginia.								•				it.								4151895
rvoniashlanduchanan.allaville.ape Henryatawba	Buckingham Hanover Botetourt Brunswick Princess Anne Roanoke	350 221 820 250 20 1,760	9 22 9 19 39 2	65. 3 65. 2 66. 9 66. 0 63. 8	- 0.3 - 0.6 + 0.9 + 1.8	91 90 94 88 87	4 4 3 16 4	34 37 31 43 34	12 12 11 12 11	42 38 49 30 35	5. 45 4. 60 7. 38 4. 13 3. 90 6. 17	+ 1.69 + 0.31 + 3.91 + 0.14 - 0.13	1.90 3.20 1.90 1.66 1.04 3.00	0 0 0	11 7 11 9 10 10	14 12 18 15 17	13 15 12 8 10	1 8 4	w. n. w. n. w.	Rev. Plummer F. Jones. E. L. C. Scott. D. D. Booze. F. M. Gage. U. S. Weather Bureau. State Board of Health Sar tarium.
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orfolk. etersburg kandolph. kichmond koanoke kocky Mount kuckersville	Norfolk Dinwiddie Charlotte Henrico Roanoke Franklin Greene	60 334 144 907 1,150 625	26 9 34 3 19 2	66. 6 64. 2 66. 0 64. 8	- 0.4 + 0.6	91 92 89 92 93 93	3 4 4 3 3 3 6	38 33 33 31 32 37 35	11† 11 12 12 12 12 12	47 40 44 45 45 45 43	4.48 4.23 4.80 5.84 6.77 8.29 7.76	- 0.13 + 0.95 + 2.41 + 3.58	1. 29 2. 14 1. 78 1. 96 1. 84 3. 65 2. 07	0 0 0 0 0	8 11 13 11 11		6	6 7 6	s. s.	Walter Edward Harris. W. J. Abbitt. U. S. Weather Bureau. Reese F. Bell. G. W. B. Hale. Dr. Jesse Ewell. B. W. Jones.
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Albemarle Beaufort Belhaven Brewers Laroleen Chalybeate Springs Charpel Hill Charlotte Durham (near) Eagletown Edenton Elizabeth City Elizabeth wn	Beaufort Wilkes Rutherford Harnett Orange Mecklenburg Durham Northampton Chowan Pasquotank Bladen	500 500 773 406 66 30 8	12 4 16 13 7 55 37 4 8 19 1	71. 8 65. 2 68. 8 69. 8 68. 5 69. 9 67. 8 70. 3 66. 9	- 0.2 0.0 + 0.5 + 1.5	94 95 95 91 92 93 92	30 2† 30 4 4 5	34 38 44	12 12 11 1 12 11† 11 12 11†	29 42 50 46 49 47 30 46 42 38	3.51 3.51 8.72 5.06 2.09 3.16 3.77 2.69 3.73 6.45 5.60		1. 49 1. 00 3. 00 1. 25 1. 02 0. 90 1. 48 1. 14 1. 15 2. 70 2. 00 1. 27	000000000000000000000000000000000000000	11 8 13 8 10 9 11 5 7 10 10 10 6	23 18 11 19 22 16 13 18 13 16	3 11 15 9 3 9 9 11 10 14	5 2 5 3 6 6 9 2 8 1	S.W. S.W. S.W. S.W. S.W. S.W.	Lewis Radeliffe. A. L. Bell. W. L. Brewer. S. B. Tanner. J. A. Smith. Prof. A. H. Patterson. U. S. Weather Bureau. J. C. Michie. J. T. Elliott. E. R. Conger. W. J. Simmons. J. W. Hall, jr. C. L. Myers.
Elkin. Enfield (near). Fayetteville. Goldsboro. Graham. Greensboro. Greenville. Hatteras. Henderson. Hickory Kings Mountain.	Hanax. Cumberland. Wayne. Alamanee Guilford. Pitt. Dare. Vance. Catawba. Cleveland.	102 656 843 75 11 508 1,165 952	26 43 11 32 20 39 20	69. 0 69. 0 69. 0 70. 6		92 90 82 93 94 92	3 4 30 30	46 39 39 43	12 11 12 11 11 11 12	42 42 38 20 33 44 33	2. 83 2. 66 6. 63 4. 04 5. 47 4. 23 3. 08 2. 67 3. 14 3. 04	- 1.63 + 2.16 + 0.56 + 1.08 + 0.24 - 1.06 - 1.41	1.00 0.86 2.45 1.71 2.76 2.80 1.51 1.05 1.01		77 77 77 77 77 77 77 77 77 77 77 77 77	15 15 15 15 15 15	2 44 5 10 5 12 5 14 5 13 1 10	5 6 6 4 2 3 0 0	S.W. S.W. De.	T. S. Inborden. Frank Glover. Mrs. J. J. Robinson. Dr. W. R. Goley. A. H. Horry. R. M. Hearne. U. S. Weather Bureau. Enoch Powell Frank B. Gwin. G. T. King. H. C. V. Peebles.
Kinston. Lincolnton. Louisburg. Lumberton Manteo. Marion. Middletown Moncure Monroe. Morranton	Lenoir Lincoln Franklin Robeson Dare McDowell Hyde Chatham Union Burke	146 994 375 102 12 1, 425 4 145 586 1, 135	7 22 30 8 21 2 19 19 26	66. 6 69. 4 70. 8 67. 0 66. 6 69. 8 68. 4 68. 4	+ 1.5 0.0 - 0.1 - 0.4 + 0.1 + 0.8	91 94 97 88 91 93 94 92 91	30 4 4 6 30 3 4 30 30	36 35 40 34 37 35	1 12 12 12 11 11 12 12 12 12 12	42	3. 76 3. 58 3. 22 6. 64 3. 55 3. 10 3. 00 4. 62	- 0.46 - 0.56 + 1.78 - 0.68 - 0.63 + 1.06	1. 36 1. 90 1. 85 1. 85 1. 60 3 1. 32 1. 10 4 2. 85		0 77 0 77 0 80 80 0 80 90 0 60 60	18 18 18 18 18 18 18 18 18 18 18 18 18 1	1 14 3 6 5 10 7 12 1 4 9 6	2	S. S.W. S.W. S. S.W. S.W. S.W. S.W. S.W	R. C. V. Teodies. S. P. Houser T. B. Wilder. B. M. Davis. U. S. Weather Bureau. Sergt. Thomas McGuire. W. P. Burrus. B. J. Utley. T. A. Ashcraft. J. B. P. Massey. Prof. A. H. Merritt.
Mount Airy Mount Holly Nashville Neuse Newbern Parkersburg Pinehurst Pittsboro Raleigh Ramseur	Nash. Wake. Craven. Sampson. Moore. Chatham. Wake. Randolph.	616 190 266 12 121 650 480 390	16 9 12 31 1 1 9 9 9 1 20 1 42	71. 3 69. 7 70. 0 68. 0 69. 8	+ 2.1 + 1.2 + 1.7	92 98 98 95 88 94	3 4 4 3 4	33 42 36 41 43 41	12 12 12 13 12 11 11 11 12	39 50 44 40 32	4. 10 6. 82 3. 10 2. 65 4. 05 4. 89 4. 65 2. 86 2. 28	$\begin{array}{c c} -0.85 \\ -2.11 \\ +0.00 \\ -2.05 \end{array}$	7 1.65 2.54 1.56 1 0.93 1.60 1.30 1.93 3 1.13		0 10 10 10 10 10 10 10 10 10 10 10 10 10	0 1 1 7 2 2 2 2 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	7 1 12 0 2 4 10 4 10		S.V. 3.	J. W. Holland. J. B. Böddie. E. M. Allen. J. B. Hill. E. J. Conway. General Office. Mrs. J. F. Alston. U. S. Weather Bureau. A. H. York. L. D. Mendenhall.
Randleman Reidsville Rock House Rockingham Rocky Mount Salem Salisbury	do Rockingham Macon Richmond Nash Forsyth Rowan	810 828 3,100 210 103 1,000 760	8 14 9 21 9 18 9 18 9 18 9 28	69. 2 62. 70. 7	+ 2.7	95 81 93	30 3	38 43 41 38	3 11 3 12 1 11	48 24 43	5. 44 5. 78 4. 73 4. 60 7. 79 4. 78	+ 1.8 + 0.7 + 0.7 + 1.1 + 1.1	2. 00 4 2. 60 2. 60 3 1. 30 1. 80 2 1. 60 7 2. 00	5000	0 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 14	1	4	E. M. Redd. Barry C. Hawkins. H. S. Ledbetter.
Saxon. Scotland Neck Settle. Sloan Smithfield Southern Pines. Southport. Statesville. Farboro.	Halifax Iredell Duplin Johnston Moore Brunswick Iredell	700 50 151 519 18	0 17 0 20 1 23 9 23 8 54 0 24	66. 0 66. 2 69. 4 69. 4 70. 6	2 - 1. 4 1 0. 6 7 + 1. 6 6 - 0. 4 8 - 0. 1 8 + 0. 1 4 + 1. 6	89 94 94 8 92 8 91	33344423	1 31 1 38 1 36 1 36 1 41 1 42 3 38	8 1 5 12 6 12 1 11 5 12 8 12	† 44 46 45 36 31 42	5. 04 5. 2. 65 6. 3. 48 6. 2. 78 6. 3. 02 7. 3. 02 7. 3. 93	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	1. 1. 10 8 2. 0 8 1. 4 7 1. 3 6 0. 9 2 2. 0 3 1. 6 0 1. 4	6 4 0 8 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0	7 1 6 2 8 2 5 2 7 1 6 1 9 1	2 1 3 2 2 7 1 1 1 1	2 3 6 2 7 7	3 S. 5 S. 6 SW. 6 S. 3 2 SW. 3 SW.	J. Y. Savage. C. H. Smith. D. M. Sholar. Edwin S. Sanders. Mrs. P. H. Beek. Mrs. C. E. Taylor. D. Matt Thompson. E. V. Zoeller.
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TABLE 1.—Climatological data for May, 1913. District No. 2—Continued.

The second	1		year	Temp	erature	, in c	iegre	es Fah			Prec	ipitation	, in in	enes.	ore.		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind tion.	Observers.
South Curolina.	Aiben	SAS	18	72.2	- 0.1	97	31	48	13	36	2.45	- 0.81	1.30	0	4	22	6	3	s.	C. E. Carman.
iken llendale niderson atesburg eaufort lackwille lairs owman roxton althour Falls anden atesburg eaufort lackwille lairs owman roxton althour Falls anden atawba happelis narieston heraw lemson College ollumbia onway artington illon disto ffingham erguson lorence aston Shoals ecrgetown reenville reenwood eath Springs ingstree liberty ittle Mountain erriwether onetta ewberry elzer inopolis . George t. Matthews aluda nature miths Mills ociety Hill partanburg numer reenton. 'Alterboro / Innsboro / Innsbo	Beaufort Barnwell Fairfield Orangeburg Hampton Abbeville Kershaw York Newberry Charleston Chesterfield Oconee Richland Horry Darlington Marion Bamberg Florence Berkeley Florence Cherokee Georgetown Greenville Greenwood Lancaster Williamsburg Pickens Newberry Anderson Berkeley Torangeburg Saluda Union Williamsburg Saluda Union Williamsburg Darlington Williamsburg Saluda Union Williamsburg Darlington Spartanburg Darlington Spartanburg Dorchester Sumter Edgefield Colleton Fairfield	502 873 55 109 209 530 572 62 75 875 75	18 24 11 24 26 23 7 7 19 46 6 7 7 7 7 42 24 21 26 20 24 11 24 18 19 3 1 8 7 19 24 24 11 1 8 7 19 24 24 11 1 1 5 8 22 21 11 15 8	72. 4 71. 8 71. 5 74. 0 70. 7 72. 8 72. 6 69. 3 72. 6 69. 3 72. 6 72. 6 88. 0 72. 5 71. 0 69. 6 72. 8 71. 0 72. 6 72. 6	- 0.1 + 0.2 + 0.6 + 0.2 + 0.6 + 0.2 + 0.6 + 0.2 + 0.6 + 0.2 + 0.6 + 0.2 + 0.6 + 0.2 + 0.6	98 95 97 95 97 96 96 96 91 96 94 96 94 97 99 99 97 100 101 98 98 98 98 98	31 30 30 31 30 31 30 30 31 30 30 30 31 30 30 31 30 30 30 31 30 30 30 31 30 30 30 30 30 30 30 30 30 30	48 47 48 500 42 445 512 42 445 51 42 42 42 41 41 42 42 42 44 42 42 44 42 44 42 44 42 44 44	13 11 12 11 11 12 12 12 11 12 12	37 44 43 44 44 46 43 43 46 45 46 45 46 45 46 45 47 48 48 48 48 48 48 48 48 48 48 48 48 48	1. 41 2. 1.38 2. 32 2. 1.15 2. 74 1. 3.36 2. 67 2. 1.16 1. 35 2. 16 1. 35 2. 16 3. 17 2. 16 3. 17 2. 16 4. 30 1. 30 1. 30 1. 30 2. 16 3. 30 1. 3	- 0.59 - 1.57 - 1.63 - 2.21	$\begin{array}{c} 1.30\\ 0.50\\ 0.79\\ 0.68\\ 1.30\\ 0.68\\ 0.70\\ 0.88\\ 1.30\\ 0.60\\ 0.50\\ 0.$	000000000000000000000000000000000000000	434453949775892231096489554377831047767745666333556777188577745597	225 221 221 221 221 221 242 222 244 223 231 242 242 221 232 242 243 244 244 218 211 223 244 244 218 211 211 223 244 244 218 211 211 211 211 211 211 211 211 211	6 1 0 0 2 2 1 4 7 6 6 1 1 4 5 5 0 0 1 4 3 1 1 7 0 0 4 1 5 1 1 5 3 0 0 0 7 2 1 1 2 6 6 7 7 1 1 1 4 4 0 0 0 5 1 3 0 0 1 3 0 0 2 2 2 1 6 3 6 6 1 4 2 2	3 5 10 7 7 9 8 4 3 3 6 5 6 6 5 5 4 10 2 2 5 10 4 4 5 9 8 6 6 1 13 6 6 6 6 15 13 6 6 6 6 15 13 6 6 6 6 15 13 6 6 6 6 6 15 13 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	S. S. W. D. S.	C. E. Carman, E. C. Cavan, H. H. Russell, E. J. Hite, Miss Lillian H. Rice, Miss Lillian H. Rice, Miss D. B. Sanders, J. N. Owens, B. O. Evans, Thomas D. Williams, L. M. Parker, W. C. Brown, James C. Faris, J. J. Murran, U. S. Weather Bureau J. H. Powe, Prof. John N. Hook, U. S. Weather Bureau J. H. Powe, Prof. John N. Hook, U. S. Weather Bureau Paul Quattlebaum, D. C. McCall, A. E. Rowell, Nathan Jenkins, H. B. McCall, Joseph Simons, H. K. Gilbert, Harry A. Parshall, A. P. Hazard, Spartan Goodlette, M. M. Calhoun, J. Marvin Bowers, A. O. Matthews, John T. Boggs, J. M. Sease, M. D. William S. Middleton Joseph M. Johnson, W. G. Peterson, J. M. Ward, Miss E. P. Ravenel, G. F. Lewis, J. S. Wannamaker, Mrs. F. V. J. Maxwell E. W. Jeter, W. G. Walker, T. Ellison Simpson, F. P. Robinson, Miss E. H. Gadsden, Duane L. Wannamak C. A. Long, B. Levy, J. W. Seigler, W. P. Goodman, J. G. Hutson,
Georgia.	Wilcox	180	10								0.65	- 2.95	0.23	0	5	26	1	4	w.	W. H. Calhoun.
dairsville Ilbany Illany Illan	Dougherty Berrien Sumter Clarke Fulton Richmond Decatur Taylor Warren Cherokee Madison Rabun Muscogee Pike Newton Lumpkin Gilmer Laurens Dodge Putnam Elbert Spalding Clay Hall Chattooga Hancock Greene Spalding Washington Hart Pulaski Muscogee Wayne Lincoln Cobb Jefferson Telfair	293 3622 694 1,218 1190 6500 613 894 557 2,100 26,22 8500 1,519 2,020 452 361 577 710 546 1,254 1,052 378 838 838 235	26 23 31 48 667 211 122 11 42 11 19 21 11 12 25 34 4 14 11 12 44 14 14 14 17 18 6 6 13 20 4 18 18	71. 4 70. 8 72. 9 73. 0 64. 2 73. 8 70. 6 66. 4 73. 8 71. 6 66. 4 72. 2 74. 3 68. 7 70. 7 74. 3 70. 7 71. 2 73. 8 71. 1 71. 2 73. 1 71. 2 73. 1 71. 2 73. 1 74. 2 74. 2 75. 3 76. 4 76. 5 76. 6 76. 76. 76. 76. 76. 76. 76. 76. 76. 76.	0.0	100 100 100 99 92 97 98 89 93 102 100 98 93 93 93 94 96 99 96 98 99 99 93 90 98 99 99 90 90 90 90 90 90 90 90 90 90 90	31 31 31 31 31 31 31 31 31 31 31 31 31 3	44 51 50 51 48 40 53 53 53	1 24 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	340 388 388 399 377 377 399 411 433 376 388 389 363 388 341 411 369 369 369 379 379 379 379 379 379 379 37	4.57 1.77 1.99 1.26 2.92 2.36 2.29 2.36 2.29 2.36 2.29 2.36 2.27 3.61 4.20 2.79 2.63	- 2. 45 - 0.57 - 1.03 - 0.65 - 1.72 - 0.29 - 0.43 - 1.22 - 1.48 + 0.35 - 1.80 - 2.59 - 1.01 - 0.71 - 1.39 - 1.02 - 1.02 - 1.76 - 1.76 - 1.76	1. 24 1. 78 0. 26 2. 00 0. 86 0. 57 2. 65 5. 1. 17 0. 85 1. 17 0. 85 0. 57 0. 57 0. 11 0. 57 0. 70 0.	000000000000000000000000000000000000000	6 5 6 6 9 9 9 4 3 3 4 4 6 6 6 4 4 7 4 4 9 10 5 5 4 4 6 6 5 111 8 8 5 7 6 6 4 4 7 7 5 7 8 8 5 6 6 6 6	26 13 10 25 25 17 18 18 21 20 19 17 10 10 10 10 18 15 21 22 27 14 18 18 18 19 21 22 27 11 21 21 21 21 21 21 21 21 21 21 21 21	2 8 14 1 1 1 5 6 6 8 3 3 11 1 1 5 5 6 8 8 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	8 2 1 10 5	Se. W. Se. Sw. W. W. W. W. W. W. W. Se. W. W. Se. W. W. S. W. S. W. S. W. S. W. S. W. S. S. S. Se. Se. Se. Se. Se. Se. Se. S	Mrs. R. C. Evins. George C. Brosnan. J. F. Rice. Joseph M. Bryan. C. D. Cox. U. S. Weather Bureau Do. W. H. Morrow. Mrs. Mamie F. Wallad J. A. Chapman. Mrs. Ada P. Mills. M. C. Power. A. J. Duncan. A. J. Land. C. T. Smith. Mrs. Sarah E. Cruse. Prof. B. P. Gaillard. Robert A. Kimzey. Mrs. M. E. Martin. Mrs. H. T. Bohannon Prof. W. C. Wright. H. A. Roebuck. M. V. Calvin. Miss Eva T. Graham. W. C. Walker. George W. Lichtensti Miss Fannie Barnard. H. M. Ponder. George White, jr. R. L. Caldwell. J. M. Mathews. Thomas L. Wood. W. B. MeMullan. R. H. Wood. W. B. MeMullan. R. H. Wood. F. C. Tibbs. W. L. Belcher. B. J. DuBose. A. N. Mayes. J. C. Little. Walter A. Hilton. R. T. Humber.

TABLE 1.—Climatological data for May, 1918. District No. 2—Continued.

		188	years	Tem	peratur	e, în	degre	es Fal	hreni	heit.	Pre	cipitation	n, in in		days,		Sky		direc-	
Stations.	Counties,	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy 0.01 inch or mo	Number of clear days.	Number of part- ly cloudy days.	Number of	Prevailing wind tion.	Observers.
Georgia-Continued.						18														
filledgeville.	Baldwin Jenkins	276 158	25 25	73.0 73.8	+1.3 + 0.3	101	31 31	48	1 1 1	38 40	0.50	-2.79 -2.27	0.32	0	6	21 21	2	8 9	s. se.	Prof. O. M. Cone. M. G. McComb.
Iontezuma	Macon	292	18								1.37		0.51	0	7	21 26	0	10	sw.	J. C. Collins.
fonticello	Jasper Coweta	800 959	24	72.6 71.8	+0.8 + 1.3	98 96	31 31	49 50	1	34 35	2.23 3.66	- 0.97 - 0.03	0.90	0	8 9	21	5	4	8.	Miss Maude Penn. Mrs. Ida J. Milner.
orcross	Gwinnett	1,078	3								2.12		1.24	0	6	16	6	9 2		W. O. Medlock.
oint Peter	Worth	600 365	23 23 13	70.6	+ 1.1 - 0.1	95	1	44	24	34 43	2.03 1.62	- 0.89 - 1.53	0.77	0 0 0	7	15 22	14 8	1	SW.	C. M. Witcher. C. T. Merritt.
utnam	Marion Brooks	173	13 27	72.9 73.2	- 0.7 - 1.4	98 98	31 31	49 42	1 1†	42	3.05	- 0.18	1.13		6	14 26	14	3 5	s. nw.	Miss Mildred Collum. A. B. Jones.
uitman	Murray	900	20	68.6	+ 0.4	94	31	47	1	33	4.47	+ 0.64	1.35	0	8	13	12	6	n.	D. E. Humphreys.
lesaca	Gordon Floyd	657 576	19 54	70.6	+ 1.2	97	31	45	1	40	3.42 3.88	+ 0.18 + 0.46	2.08	0	6	26 24	0 2	5	n. s.	D. A. Norton. W. M. Towers.
t. George	Charlton	50 65	6	71.8		96	30+	46	1	46	3.15		1.47	0	6	23	8	0	se.	A. N. Lund.
avannahtatesboro	ChathamBulloch	65 253	62 13	73.5	-0.5 + 0.5	98	31 30	56 48	1	28 41	1.28 1.56	- 2.40 - 2.35	0.56	0	8 7	10 14	14 17	7	8.	U. S. Weather Bureau. W. C. Cromley.
albotton	Talbot	750	19	73.4	+ 1.4	100	31	51	1†	38	1.15	- 1.81	0.56	0	6	12	0	19	W.	Dr. E. L. Bardwell.
allapoosa homasville	Haralson	1,150 273	14 31	69.6 73.3	+ 0.3	98	31 31	48 52	241	37 38	2.35 2.87	- 0.71 - 0.90	0.95	0	8	12 14	8	11 6	se. se.	Miss Averil Southard. U. S. Weather Bureau.
occoa	Stephens	1,050	27	70.4	+ 2.1	96	31	46	11	40 45	2.53 2.95	- 1.59	1.68	0	6	24 24	0	5 7	W.	J. A. Creasy.
aldostaalona	Lowndes McIntosh	220 10	15	74.2 72.2	- 1.1	100 100	31 31	51 46	21	31	3.79	+ 0.03	1.15	0	5	27 22	0	4	w. se.	Miss Annie Twitty. George E. Atwood.
Vashington	Wilkes Ware	630 131	22 24	71.2 73.9	- 0.4 - 0.8	94	31 30+	50 49	1	30 44	2.16 1.21	- 1,46 - 1,12	1.20 0.57	0	7 5	20	8 5	1 6	ne. ne.	Miss Ella B. Smith.
VaycrossVaynesboro	Burke	86	21	73.6	+ 1.4	100	31	45	1	44	1.97	- 1.52	1.45	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6	13 17 25	14	4	S.	Dr. J. F. Wilson. Mrs. H. W. Blount.
Vest Point	Troup Meriwether	620 641	23 12	71.1	- 1.4	95	31	49	1	34	2.87	-0.46 -1.12	0.98	0	5 5	17 25	3	13	W. 8.	E. N. Dunn. E. T. Riggins.
	Active conci	OII	-						****		2.02	1.12	0.00			-				as. a. magnino.
Florida.	Franklin	24	8	79 9		00	28+	61	3	24	2.95		1.25		6	17	13	1	se.	G. H. Whiteside.
readia	De Soto	61	12	73.3 77.6	+ 0.5	88 97	20+	57	3	32	3.88	+ 0.20	1.65	0	9	9	22	ō	w.	C. S. Bushnell.
rcher	Alachua De Soto	92 150	28	75.8	- 1.5	94	31 30†	57	···i	30	2, 27 6, 39	-1.32 + 1.58	0.56 2.95	0	6	21	10	0	e.	R. B. Hodgson. William King.
artow	Polk	115	14 25	73.7	- 3.3	94 94	31	49	1	36	2.83	- 0.96	0.83	0	9	15	4	12	Se.	William Hood.
assenger	Osceola	10	29	74.1		96	31 5	52	1	33	6.55 2.52	- 0.35	1.50	0	7 4	16 22	13	0	sw.	L. N. Kline. F. H. Braymer.
ristol	Liberty					96h	31				3.26		1.30	0	3				e.	J. N. Harrell.
Brooksville	Hernando Franklin	126 10	20 14	75.3a 73.6	-1.4 -1.6	94a 91	18 31	56a 56	1†	35 31	1.75 2.45	-1.52 -0.18	1.22	0	4	••••			w.	C. C. Peck. J. J. Blomquist.
edar Key	Levy	10	24 19	75.2	- 0.2	88	30+	59 57	1	21	1.48	- 0.10	0.52	.0	5 3	22	0	9	w.	S. T. White.
rescent City	Lake Putnam	105	15	77.7	-0.6 -0.3	100	31 31	57 54	1 3	33	1.33	- 2.22 - 2.64	0.78	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8	17 19	14	0 2	е.	S. S. Fesler. Walter Cliff.
De Land	Volusia	27	16					49	3	38	$\frac{1.97}{2.06}$		1.05 0.52	0	5	12 28	18	1	e. e.	A. C. Haynes. C. T. Smith.
ustis ederal Point	Putnam	56 10	22 21	76.3 74.2	-1.0 -0.2	96 97	29† 30	51 51	3	37	1.43	-1.18 -2.38	0.57	0 0	7	16	13	2	se.	E. S. Hubbard.
ort Lauderdale	Polk	10 125	23	76.2		95	31	59 49	9	31	9.34	- 0.37	2.35 1.00	0	11 5	17	12	2		W. M. Heine. G. L. Brodrick.
ort Myers	Lee	12	40	76.0	- 1.1	92	5	58	3†	29	3.26	- 0.48	0.92	0	8				e.	Miss M. M. Gardner.
ort Pierce	St. Lucie	10 176	12 17	74.8	-1.0 -2.1	87 95	19 30	61 52	10	23 35	3.58 2.67	- 0.47 - 0.54	1.07	0	11	26	1	4	e. se.	T. C. Nicholson. John Schnabel.
arniers (near)	Walton	22	1	72.7		97	31	51	1	38	2.98	- 0.01	1.07	0	5 7	23	î	7	S.	U. S. Forest Service.
rasmere	Orange Dade	175	15	74.0	- 3.0	94 93	31 31	52	3	35	2.33 6.18		$1.27 \\ 2.35$	0	8	11	14	6	е.	J. B. Escott. T. M. Griffin.
lilliard	Nassau	69	4	72.2		96	31	48	5	42	1.26		0.37	0	5	17	9	- 5		B. A. Tibbits.
lomestead	Palm Beach	12 9	17	74.8 76.6	- 0.4	91 92	29† 31	58 59	9	28 34	7.33	- 0.73	1.89 1.65	0	8	18	13	9	e. e.	J. A. Kahl. G. A. Angevine.
iverness	Citrus	43	13	74.5	- 1.4	93	30	53	3	32	2.91	- 0.80	0.72	0	9 5	12	19	6	se.	W. H. Miller. U. S. Weather Bureau.
acksonville	Duval	152	12	72.4	$+0.1 \\ -2.5$	94 96	31 31	58 48	1	28 43	1.06 3.65	- 3.19 - 0.24	0.53	0	7	18 11	7 14	6	S. SW.	Mrs. W. C. Caldwell.
ohnstown	Bradford Monroe	125 14	13 42	73.1 77.8	- 1.6 - 1.2 - 1.6 - 1.1	96 86	31 31	50 67	1	41 15	3.86	+ 0.53 + 0.10	1.71	0	8	15 -17	13	3 5	se.	A. M. C. Brasch. U. S. Weather Bureau.
issimmee	Osceola	65	20	75.8	- 1.6	96	31	53	1	33	2.43	- 1.09	1.45	0	6	11	17	3	ne.	J. A. Simpson.
ake Citylve Oak	Columbia Suwanee	210 109	28 13	74.5 73.6b	- 1.1	96 97 ^b	31	51 49b	5	42	2.05 3.41	- 1.06 - 0.15	0.70 1.02	0	9 12	12 15	16	3 7	se. s.	W. B. Knight. Rev. J. A. Montgomery
ock No. 1.	Dade										6.89			0	12					The state of the s
ucern Parkacclenny	Polk Baker	125	16	75.8	- 2.4	94 97	31 31	56 49	1 1 1 1	39	4.54 2.54	- 1.77	1.20	0	11 7	9	27 19	0 3	е.	L. D. Niles. Griffing Bros. Co. E. J. Vann.
adison	Madison	200	13	74.7	$ \begin{array}{r} -0.7 \\ -1.2 \\ +1.3 \end{array} $	96	31	55	1	37	3.12	- 1.23	0.83	0	11 12	10 25	11	10	ne.	E. J. Vann. J. F. Farley.
alabar arianna erritts Island	Brevard	24 80	19	75.3 75.2	+ 1.3	94 100	30	57 50	29	30 40	1.08 3.62	-3.09 -0.19	0.23 1.27	0	5	20	4	7	se.	W. W. Brooks.
erritts Islandiami	Brevard	20	30	74.6	- 1.9 - 2.6 - 0.4	90 88	31	56 60	9	26 25	2.31	-1.39 + 2.05	1.21 3.69	0	9 6	17	10	10	se.	F. Ulrich. U. S. Weather Bureau.
iddleburg	Dade Clay Escambia	47 10	12	73.1	- 0.4	97	28 31	49e	14		8.42 1.79	- 4.95	0.61	0	6		1.2		50.	G. A. Chalker.
olino. ount Pleasant	Escambia	49 260	11	70.4	2.1	96	31 31	47	1	43 39	5.07 4.76	+ 0.61	1.42 2.10	0	5 7	23	4	4	Se.	W. H. Trimmer. Miss Addie Grubb.
ew Smyrna	Volusia	. 9	28	72.4	- 1.3	96	31	52 54 51	3	31	2.40	- 1.07 + 1.24	1.30	0	7 8	16	12	3	e.	Ferd Nordman.
calarange City	Marion Volusia	98 39	7 28 22 19	74.6 73.5	- 1.3 - 1.4 - 3.3 - 1.5 - 2.1	97 97	11 30+	51	3	42	4.46 1.12	-2.04	1.25	0	8	12 21	19	5	SW.	J. C. Caldwell. J. D. Graham.
rlando	Orange Escambia	111	20	75.2	- 1.5	95	31	49 51 55 55	3	35	2.08	- 1.60	0.42	0	9	13	13	5	sw.	James Thomson.
ensacolainellas Park	Pinellas	149 20	33	72.8 74.4	- 2.1	87 91	31 5	55 55	24	21 31	2.08 2.15	- 0.60	0.74	0	6 4	17 20	8	7 3	se. w.	U. S. Weather Bureau. Miss E. Borgman.
lant City	Hillsboro Palm Beach	121	19	75.6	- 0.8	94	23†	55	3	.31	2.05	- 2.35	1.40	0	5	19	12	0	S.	E. B. Trask. M. Toda.
itta. ockwell	Marion	10	11	74.1	- 3.0	92	31 30	51 52°	6†	28 38	5.35	+ 0.38	2.45 1.42	0	13	19	7	5	e. sw.	Dunellon Phos. Co.
t. Augustine	St. Johns	10	61		- 0.8	98	31	52	3	34	0.65	- 2.85	0.45	0	8	30 16	1 6	0	e.	E. F. Joyce. J. T. Bearss.
. Leo	Osceola Pasco	140	16	74.6		96 92	31 30	56	3	31	2.24	- 1.64	0.28 0.83	0	5	20	8	3	e. e.	Gerard Schneider.
and Kev	Munroe	25	1	76.6		84	29	68	14	13	2.47		1.44	0	4	15 23	11	5 5	e. ne.	U. S. Weather Bureau.
anfordatsuma Heights	Orange Putnam	98	5 5	73.8 74.4		98	31 30	56 53	3	35	0.74 1.05		0.24 0.62	0	5	20	3	0		The Satsuma Co. Mrs. W. C. Steele, W. H. Markham. U. S. Weather Bureau. A. P. Albaugh.
witzerlandallahassee	St. Johns	10 192	20	72.6	-2.0 -0.1	96		51a 56	3	35	2.01	- 1.55 + 0.58	1. 12 1. 40	0	8	22	3	5	w.	Mrs. W. C. Steele.
ampa	Leon Hillsboro	79	23	75.2	- 0.3	89	21	59	1 3	27	1.49	- 1.43	1.35	0	3	23 19	8	4	ne.	U. S. Weather Bureau.
arpon Springs	Pinellas Brevard	20	28	74.4		93	27	53 58	1 29	34	3.33	+ 1.35	2.00	0	5 7	26 14	3	6	w. e.	A. P. Albaugh. F. M. Taylor.
itusville																				

Table 1.—Climatological data for May, 1913. District No. 2.—Continued.

			years.	Temp	erature	, în d	legre	es Fal	renh	eit.	Prec	ipitation	, in inc	ehes.	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	sno	Number of rainy day 0.01 inch or more.	Number of clear days.	Number of part-	N umber of cloudy days.	Prevailing wind tion.	Observers,
Alabama.	Houston	105	8								1.42		0.50		6					James L. Willis.
laga	Covington	488 728	22	72.4	+ 1.4	94 93	301	48 48	1	38	1.70 2.96	- 0.13	1.70 1.55	0	7	19 12	9	3 6	Se.	W. N. Rushton. U. S. Weather Bureau.
nnistonshville	St. Clair	685	20	68.9	- 0.8	90	30	43	1	40	4.70	+ 0.53	1.70	0	5 7	14	14 13	3 9	sw.	A. L. Cather. Dr. James T. Anderson
uburn	Lee Lowndes	732 149	31 12	73.2	+ 1.7	96	31	51	24	33	2. 12 3. 76	- 1.45 - 2.18	1.28	0	5					8. T. Pruitt.
ermuda	Conecuh	701	26 25	73.0 70.6	+ 1.2	96 90	19†	49	1 24	39	1.36	-2.09 +1.39	0.54 2.77	0	7	13	14	8	Se.	M. J. Morris. U. S. Weather Bureau.
irmingham	Jefferson	500	12							38	2.90	-1.92	1.87	0	5	9	17	5	nw.	L. G. Privett. Dr. Lyman Ward.
amp Hilltronelle	Tallapoosa Mobile	738 331	12 25	70.4	$+0.3 \\ -0.7$	95 94	31	48 52	24 24	30	2.18 7.52	- 2.21 + 3.23	1.00 3.98	0	4 7	13	14	4		Rev. W. H. Rowe.
anton	Chilton		20		- 0.2	94	31	48	1	37	2.62 9.60	- 1.78	1.47 5.20	0	9					Joseph B. Downs. T. H. G. Cook.
ordova	Pickens Walker	334	22	69.4	+ 0.7	91	30	44	1	40	6.99	+ 3.03	2.70	0	5 7	20 20	3 7	8		Scott Maxwell. Eugene A. Grayot.
ıllmanadeville	Cullman Tallapoosa	802 760	5 8	72.8		93	31	46	1	34	6.79		2. 25 2. 15	0	3					Dr. W. B. Fulton.
aphne	Baldwin		22 21	72.4	- 1.4	94	31	51	24	28	4. 18 3. 16	+ 0.65	2. 10 2. 13	0	5	21	7	3	SW.	John H. Young. George E. Pegram.
emopolisothan	Marengo Houston			74.4		96	31	55	1†		1.08		0.90	0	5 6	26	1	4	SW.	L. G. Biggers. Dr. J. B. Whitloek.
ıfaulavergreen		200	29 29	70.7	- 2.1 - 0.3	96 95	31	48 53	1 17	33	1.68 2.55	- 1.65 - 0.97	0.88	0	5					George W. Salter.
omaton	Escambia	91	21	72.6	- 0.4	97	31	48 50	3		$2.37 \\ 0.78$	-1.91 -2.97	0.89	0	5	19	2		S.	T. J. Farris. J. F. Hattemer.
ort Depositadsden	Lowndes		29 29	72.8 71.6	-0.5 + 2.2	95 98	31	49	1	38	3. 16	- 0.76	2.52	0	4					D. P. Goodhue.
oat Rock	Lee		18	69.9	- 1.4	94	31	47	25	37	1.39	- 0.92	0.55 1.55	0	6					B. B. Hamby. Miss Daisy Buice.
oodwater	Coosa Hale	220	34	72.2	+ 0.7	91	31	51	24	30	4.70	+ 0.57	1.48 0.52	0	8 2					W. E. W. Yerby. E. M. Lewis.
reenville	Butler Marion		12	68.6	- 1.4	94	31	44	1	44	3.81	- 0.32	1.35	0	9	13	10		sw.	Prof. H. O. Sargent.
ealing Springs	Washington	362	21	73.7	+ 1.3	96	31	52	24	31	3.06 2.65	- 0.97	1.96 1.65	0	7	17	8	6	8.	James E. Lipscomb. Prof. Samuel Jordan.
ghland Homevingston	Crenshaw	160	29	71.4	- 0.8	90	31	50	1	34	3.78	- 0.14	2.15	0	5					Robert L. King. U. S. Engineers.
ck No. 4	Talladega		16 20	70.6	+0.6 + 2.3	93	31	48 50	21		3.07	- 0.14 - 1.54 - 1.50	1.97	0	5	10	21	0	nw.	Mrs. A. L. Awbrey.
ntone	DeKalb	1,595	6							****	3.30		2.20 0.84	0	4					E. Mason. W. U. Wall.
lstead	Macon Mobile	84	10 41	73.7	+ 0.1	94	31	55	24	24	1.59	- 2.40	0.89	0	7	14	14	3	80.	U. S. Weather Bureau
ontgomery	Montgomery	240	41 21	73.4	-0.1 + 0.5	94	31	54 50	24		2.38 2.26	- 2.40 - 1.44 - 2.44 - 0.89	0.95	0	6	13 16	15	3 5		Dr. J. Huggins.
wbern	Blount	857	19	70.0	+ 1.3	91	31	45	1	39	3.87	- 0.89	1.53	0	7	11	0	20	n.	Aquilla J. Ketchum.
elika	Lee	917 400	34	71.6	- 0.2	90 93	31	52 53	24		2.45	- 1.05	1.32	0	5					A. H. Read, jr. James A. Scott.
attville	Autauga	281	13	70.8	- 0.2	93 92	31	47 50	1	37	2.39 4.20		0.60	0	7	12	16	19		Joseph B. Bell. W. N. Horn.
shmatahabbertsdale		148	22	71.0	- 1.4	92					2.03		0.77	0	8					. Carl Boseck.
lma	Dallas		33	73.7 73.4	+ 1.3	97 95	31	50 51	24	39 31	3.00		1.62	0	6	24	6	1	8.	Charles F. Brislin. Spring Hill College.
ring Hill	Talladega	554	23	71.3	+ 0.9	95	31	48	1	40	2.92	- 0.76	2.10	0	6	10	10	11	sw.	J. W. Vandiver. P. A. Noble.
allassee	Elmore	385	22 22	72.2	- 0.9	97	31	49	24	38	2.21		0.83	0	4					. Miss H. T. Forster.
оу	Pike		5 32	74.4	+ 0.2	96	30	53	24 24 24	32 40	1.08	+ 1.32	2.60	0	6	6	23	2	S.	Frank L. Zimmerman W. S. Wyman, jr.
iscaloosaiskegee	Macon		13	73.4	+ 0.4	97	31	50	14	39	1.46	- 1.95	0.40	0	5	9	21	1	8.	Prof. George W. Carve
nion Springs		216 273	26		+ 1.5 + 0.6			51 50	24	35 34	1.50	- 2.35 - 2.40	0.68	0	5 2	16	9	6	nw.	P. L. Cowan. L. H. Moore.
alley Head	De Kalb	1,031	27 28 21	69.0	+ 2.1	98 97	31	43 49	1	45 38	3.03	- 1.56 - 1.63	1.62	0	5	22	3	6		M. T. Floyd, M. D. Mrs. Emmie Callaway
Mississippi.	Elmore	205	21	13.0	+ 0.7	91	31	13	1	30		1.00	0.30		1	1		1		and Dame Calletta
oerdeen	Monroe	210	25	70.7	0.0			48 52	1	39	4.74	+ 1.22 + 0.16	1.53	0	7 10	22 17	3	6		L. D. Godfrey, jr. J. R. Rieks.
ricultural College y St. Louis			23 20	71.6	- 0.2 - 2.1	90	31	53	24	32 27	5. 59	+ 2.25	1.98	0	10	19	8	4	Se.	Brother Matthew.
loxioneville	Harrison		22 19	68.4	- 1.0 - 1.5			54 47	24 23	26 34	4. 22 2. 83		1.97	0		21	17	3		Miss M. Josie Pope. Dr. D. T. Price.
ookhaven	Lincoln	500	25	71.8	- 1.5	95	31	48 48	24 24	35	4.33	+ 0.21	1.63	0		20	4	7	S. S.	W. J. Bee. G. P. Sledge.
llinslumbia		110	9	71.7		. 94	31	48			5.22		2.60	0	5		1	10	nw.	N. R. Drummond.
lumbus	Lowndes	191	25 21	71.4			31	48	24	35	4.35	+ 0.60	2.03	0		20	4	7 3	ne.	L. B. Love. D. H. Miller.
vstal Springs linburg	Leake		. 5			. 93		45			3.40		1.74	0	5	18		9	8.	J. Y. Blocker. J. B. Thompson.
nterprise			8 4								5. 52		2.02 1.20	0	10	13	17	1	8.	A. D. Graham.
attiesburg	Forest	189	20		- 2.4 - 2.2	94	31	47 46	24 24	36	3.80 2.45	- 0.83	0.98	0					s. ne.	T. C. Spence. J. D. Granberry.
zlehurstekory	Newton	326	23								9.35		. 3. 20	0	8					J. D. Granberry. T. N. McMullen.
ksonke	Hinds	280	26 25	71.6			31	49	24	38	5.17 3.82	- 0.31	2.00	0	6	20	0	11	SW.	A. S. Nall. Mrs. Eddie McNeel.
urel	Jones	241	9	71.3		. 93	31	49	24	36	9.75		4.00	0	11	22	6			Thomas W. Flynt. Dr. Sam Pool.
kesvilleuisville	Winston	561	19 24	71.2		91	31	50 48	10	37	5. 57 5. 01	+ 1.48	2.07	0	7					B. T. Webster.
Neill	Pearl River	230	10	72.4	- 0.9	94	31	50	24	31	7.53 5.96	+ 1.07	3.50	0						B. T. Webster. Prof. E. B. Ferris. Finis E. Charleton.
aconagnolia	Pike	415	25 17	71.4	- 2.5	92	19	49	24	30	5.17	+ 0.20	2.18	0	10	13	14	4	S.	Miss Ruby V. Robert
eridian	Lauderdale	375	23	70.4	- 0.7	91	31	50	24	35	7.24 6.25	+ 3.38	2.64 3.65	0						U. S. Weather Bureau James E. Walters.
onticello	Lawrence	209	6	71.6		. 93	31	47	24		3.19		. 1.87	0	10	19	10	2	se.	James E. Walters. Dr. G. A. Teunisson.
colonascagoula	Chickasaw	311	25	70.2 73.1		95	31	50 55	24	23	5.04 5.87		2.46	0	6					E. J. Henson. McVea Young.
arlington	Hancock	10	25	72.2	- 1.8	91	31	50	24	32	4.78	+ 1.41	2.70 1.73		8	14		1	W.	Miss Annette Koch.
orterville			8	70.8		93	31	49			6.13		2.08	0	6	16	5	10	S.	George A. Floyd.
ipelo	Lee		14 26	70.4		94	31	48	25	34	6.20		1.22 2.10	0		21 18	6		S. W.	George A. Floyd. W. S. Vincent. R. S. Burke.
aynesborooodland	Wayne Chickasaw		26		- 1.1		01	49			2 20	2.00	1.90					1		J. L. Ricks.

*, b, *, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

**Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

T. Precipitation in less than 0.01 inch rain or melted snow.

TABLE 2.—Daily precipitation for May, 1913. District No. 2, South Atlantic and east Gulf States.

Stations.	Watershed.	-		1	1	1	1			1	1	1			1							-	1				1			1	1	-
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Virginia.										7																						
rvonia	Jamesdo							.10		.08	. 02						.26 T.	.32					. 87	.50	1.90 .		T.	.75				. 03
shlanduchanan	do							. 10	.77								.11	. 46	. ii			. 40	.00	1. 29	3. 20 . 1. 90 .		T.	. 24	1.18		. 65	.31
llaville	Chowan								1.		. 22				. 10		- 25	. (165)	23		3000		0.00	T.	1.66 .			. 85	. 50		. 20	
pe Henry	Coast Roanoke		****		1		. 05	.10		.01	. 30				. 02	.23	. 48	. 31				- 25/20	. 22	3.00	1.02 .			.51	. 28		1.04	T.
arksville	do	10000													1		30	. 10	. 81						1.57 .			. 05	. 86	.12		
olumbiaanville	James Roanoke							T.	.22				••••		****	••••	.31	. 40	48			• • • • •	. 85		2. 42			1. 25	. 70	T.	. 70	.09
iamond Springs	Coast							T.			. 37						.21	. 54							1. 67			. 22	1. 17	1.11	T.	1.79
ry Bridge	James									. 04							T.	. 75					T.	.24	2.40 . 1.70 .			.74	. 40	.30	. 62	. 13
ot Springs	Coast James							. 85								. 06	.01	. 40			. (0)	. 13	. 11	. 85	. 17			78	08	1	19	08
70r	Chowan James						. 30				1.20						T.	- 40							1.90 .			. 60	1.80		1.20	.20
assiter	do			1.		1		. 03	. 05						****	. 26	.08	. 17			.21	. 10	.41	1. 47	3.70 .	***	. 43	. 51	. 24	• • • • •	. 30	. 35
ynchburg ewport News	do						· · · ·	. 16		. 22	.02					T.		+ 44			. 20	1 34	. 40	Sec. 443.	. 44 .			.72		.03	. 03	
ewport News	dodo						T.	.03		.08	1 . 24				1.	. 10	. 42	T.					T.		1.64 1.16	***	• • • • •	56	45		1 12	ACCEPAN
tersburg	James							. 05			. 29						. 50	411		W		2000	. 60		1.29 .			.58	. 29			: 48
andolph	Roanoke James			****	1		T.	.01		T.	T.			****	****	T.	. 40	11173	. 30				. 221	2. 14	1.24			10000	72	.08	100000	432
oanoke	Roanoke						. 30	. 02								. 11	. 04	.36	T.		1.65	.30	.08	1.96	. 22 .			. 55		. 17		. 08
ocky Mount	James							. 41			. 09					. 03	.70	. 47				. 99	. 51	1.84	.96		. 10	. 67	10		67	
unnymede (near).	Chowan							. 28		. 98						.27	. 25	45						78	86		****	- 78	1.04		2. 07	
est Point	Coast						T.								T.		. 28	. 53	T.						1. 45 1. 40			. 49	. 54	.03	1.32	. 07
illiamsburg	зашев	****					****	. 15		****	. 00	****	****	****	T.	••••	. 40	. 12	. 05	****	••••	••••	. 18	• • • •	1. 40 .	••••		T.	. 70	****	****	2. 35
North Carolina.				-																	-					J.		71-	10			1 -
bemarle	Pedee								. 26							.02	. 13	. 26			. 15		. 06	. 18	2.42 .			. 83	. 22			
aufort	Coast Pungo							.03	. 02	.06	. 02			****		• • • •		.11	. 16	. 16	20	70		09	. 85	. 02		. 27		. 35		
rewers	Pedee						T.	.04	. 44	. 11						. 61	. 17	.01		. 03	.74	.90	1. 17	3.00	2. 42 . .85 .63 .			1. 41				
roleen nalybeate Springs.	Santee Cape Fear							T. T.	T.		95					T. T.	. 25	. 13		. 70		1.20	. 04	1.25	. 68			.81				
apel Hill	do							. 57			.31					.10	. 05	. 18				.00	.01	.11	1.02 .90 .42	***		. 65	. 14		****	. 17
arlotte	Santee						1	. 04	. 11			1		.50.7		T	. 14	. 47		. 02	T.	.84	. 07	1.06	. 42 .		T.	.59	.01			
urham (near)	Neuse Chowan			****		****		T.	T.		.06			****		06	• • • • •	. 40	1.08				T	T	1.05 1.15			. 68	. 46		T.	
lenton	Chowan Coast Pasquotank.						.30	. 10								. 10			. 50	- 40	. 708			2.70		30.0	. 60	.70		. 35		
lizabeth City																									2.00 .93			T.		.30		1.00
kin []	Cape Fear Pedee								. 16		. 16				****			.14	.04			. 22	.48	1.39	.98	. 10		.40	1.07			
nfield (near) ayetteville	Cane Feer								14								. 14	. 85	. 15				17		1.00	. 20	T.		. 05	. 44		
oldsboro	Pedee								2. 45	T.	T.				****		.04	.10	.09		****	****	.02	****	2. 10	.04		.05	. 86 1. 55	17	.02	****
raham	Cape Fear								.72	.02	. 27						. 27	. 30	. 05					T.	1.71 .			.02	. 60	.04		.04
reensboro	Tar			***		****	****	****	.22	****	. 12	****	****		****			. 16	. 05	••••	••••	.03	••••	. 02	2.75 2.70	.01		****	1. 16	.10		. 12
atteras	Coast Tar and									.02	. 03							.06	.04										. 81		.01	
enderson									T.	. 12	T.					. 04	.04	. 18	.06				****	1	.84 .			1.05	. 22		• • • • •	••••
ickory	Santee							. 01	. 29							T.		. 08	.36			. 40		1.01	. 22 .			.77				
ings Mountain	Neuse		****						62		19			• • • • •		••••	.24	.26				. 12	.08	. 05	. 80			1.34	- 64			
neolnton	Santon						1		1 36							92	. 82		- 11%			42		52				1 05				
ouisburg umberton	Tar Lumber					1			. 15		T.						. 47	.24						T.	. 80 1. 65 . 66	.06			1.90	. 14		
MILEO	Coast								. 11	. 10	****		****			****	****	.06	. 28	****	. 20		. 61	.34	. 66	. 20		30.	. 68		.42	.62
arion	Coast Santee							. 47	. 15	.01						. 04	T.	.07		. 52		.04	.02	4.34			T.	. 96				.02
iddletownoncure	Coast Cape Fear			****			• • • •	.05	. 08	• • • • •	.26						.07		* 57.6					. 20	1. 15 .			1. 00	. 14	2000		
onroe	Pedee																T.	. 46			.33	T.	. 15		1. 10			. 83	. 13	.01		.02
organton	Santee Pedee						T.	T.	. 08	19						Т.	977	. 03	. 30			T.		2.85	1. 10 .			. 96			T.	T.
ount Airyount Holly	Santee																T.	.30	****		.33	. 08	06	. 12	1.65		****	. 80	1.30		****	••••
ashville []	Tar								. 03	T.					2	T.	T	. 47	. 45			1.62	. 92		2. 16	. 12			. 90	. 15		
ewbern	Neusedo						****		. 09				****		****		. 56	.03	. 18				.04	.02	.76	. 26	****		1.56		****	****
rkersburg nehurst.	Cape Fear								. 30	T.							T.	. 10				. 15			1.60 .			1.05	. 45	.28		
ttsboro	Lumber Cape Fear		****	****		****	****	. 05	. 25	.30	****		****			****		. 66	****	.90	1.20	.20	. 18	. 90				1.30		. 15		
aleigh	Neuse							.01	. 01							. 12	. 16	.22	T.	. 50	T.	.01	.01	. 36	. 751.			1. 13	.08	****		
amseurandleman	Came Pear						****		. 13		. 55					. 04	. 11	. 25					. 04	.11	. 59			. 40	.06			
pidsville III	do									.04								. 42	.08	****	. 42		.18	. 10	2.00. $2.66.$				1.50	.02		.07
ock House	Savannah						T.	.07	T.	T.						. 05	. 60	. 06	.11	. 22		.11	. 54	2.60			.04	. 28				. 05
ockingham	Pedee								T.								1.25	1 90	1.20	****	. 95	1.50			1.30 . 1.35 .			. 80	00	.72		
lem	Pedee																	. 35				. 45	. 55		1.65			. 15		. 12		
isbury	Roanoke							. 19	. 25									. 20	.94		. 30						1 00	.18	1.02			
buand Neck	Tar									. 02	****	****	****	****			. 15	.37	.36	****		.08	77	. 10	2.00 . 1.16 . .58 .		1.28	.71	. 29	****		****
tle	Pedee							.22 T.	T.	. 14							T.		T.	T.		. 15		1.34	. 58			2.04	.57	T.		
anithfield []	Cape Fear Neuse						****	T	. 06								T.		.06	8588	****	. 00	.03			.08		. 50	1.40	. 15	****	
utnern Pines									. 50								1.	. 30			****		.03					.75	.30	. 13	****	
uthport	do																	. 10	.04		. 03			. 10	.38 .			. 37	2.00			
rboro III	Pedee								. 62	****	****	T.	7.	****			. 05	22	. 40			.36	T		1. 19 .			1.60	1 45	.07	.01	
eldon III	Roanoke								. 03		. 59	T.				. 01	.20	. 13	.12				. 18		1.37	.36			. 79	.25	.03	.05
illard ilmington	Cape Fear									. 42									****		***	. 19		Tr.	.29 .			. 45	1, 40			
South Carolina.		****							****	. 03	. 03			****				.12		. 35	****	****	***-	T.	.40 .	***	****	. 93	1.04			
																											16		16			
endale	Edisto							1.30										. 30			.50							. 35				
WALKERSON BROKEN	Savannahdo																						.21	-	.20 .				. 50	2		

Table 2.—Daily precipitation for May, 1913. District No. 2—Continued.

Stations.	Watershed.															Day	01 m	onth														
Caronin	W dividuous	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15-	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
uth Carolina—Con.																																
atesburg II	Edisto								.09									. 15	T.		.65		93		. 62							
aufortackville	Coast										. 70												. 18				.87					T.
	Edisto Broad								. 35								. 06	. 03	.07		. 03		1.30									
airs []	Edisto			1					.20	.07							.05	.07														
oxton	Salkehatchie									10	10	20	d .	1	1			10					00		1 00				20			
houn Falis	Savannah Wateree								. 18								15	06	.04		. 49	07	35	.34	. 46	07			. 70			
mden []	Catawba									.06							. 10	.20	. 13		1.00	.01	. 16	.24	1.01	.01		.08	2.24			
tawba appells arieston	Saluda																	****							. 29				1.10			
eraw II	Coast Pedee								.07	Т.	T.						.01	. 03	.04		42		.02	T.	58	.03		. 15	.30			T.
eraw emson College	Savannah															. 40	. 12	. 40	. 18		. 09	.30		.94				. 95				
lumbia	Congaree Waccamaw.							. 04								. 03		T.	.10		T.		т.	T.				.06	1.70	m		T.
nway	Pedee									.06									. 03		. 07	.05	.20						1.03			
llon	Little Pedee								.06	.09							T.	. 10		. 17	.08	. 22			. 52			3.06				.01
listo	Edisto								.30									.06	TD.				. 23						. 36 1. 60			
rguson I	Santee								T.										. 08										1.20			
rguson	Pedee																FET	PP I	T	1	92	T	T.			.06		T.	1.41	. 05		
ston Shoals !	Broad																T.	15	.00	T.		.06	T.			T.		. 18	. 44			
eenville	Saluda							.01									. 07	. 50	. 03			.01		1.72	. 15			. 07	. 16			. 02
eenwood	do	****							· · · ·			****				1 00		40						. 17								
ath Springs	Wateree Black	****				****			T.	****		****				1.00		. 26	.07	****	.80		. 60						1.55			****
bertyttle Mountain	Savannah									. 10	T.					. 25	. 20	.30	T.			T.	. 40	. 25			T.	. 50				T.
ttle Mountain	Saluda Savannah							T.													. 15	.08 T.	.08	. 25 T.	.21	m.						
netta	Edisto							. 61										.32		T.		.09	. 46					. 33				
wberry	Saludado																	. 05		. 03		. 22		.06	. 56			. 43				
opolis	Cooper						****						****				T.	. 32	. 10	****	. 18		****	. 96				1 60	. 34	****	****	
George II	Edisto								T.	.82							. 20						. 50						. 50			
	Santee								. 50									.30					. 20		. 60				1.55			
uda	Saluda Broad										T					.50	T	35		. 65	95	.15		. 30								
itueiths Mills []	Pedee									.08	. 62	****				1.	1.	.08	.16		.25 T.	. 40	T.	.10	.94	. 67		.12	2.08	.08		
iety Hill	do							.25	.03						1		1	. 05		. 26	.11	.11	.01	. 50			.08	. 55				
nmerville	Ashley							T.		.44							.42	16	.21			-18 T.	T.	. 32	1.08			.06	.10			
nter	Black						0900				T.						.12	.05			.39	. 11	. 20	.27	.00			.28	.00		T.	
	Edisto																	. 35		. 13		. 12	. 05		. 31			. 22				. 04
alterboro	Ashepoo Broad									. 32						T				. 40	T	.20	.15					50		. 10		
nthrop College	Catawba																.35	. 28		1.19	.97			. 23	. 75			1.21				
massee []	Combahee									.30		. 52			. 03			T.	.06				. 76		.06				. 15			
Georgia.														-										1								
beville []	Ocmulgee								T.	T.		.05	T.	T.				T.	.12			. 21		.04	. 23							
airsville	Coosa																.76					T.	.90	1.81								1.10
oany ii	Flint							T.		T.		T.						.15				.02	.12	.06	. 83							
apaha	Flint									.00			.15					.08	.10			.02		.03	. 60							
nens II	Oconee											T.						. 33	. 34		.73			1.24	. 07				. 21			
antagusta	Chat'ho'chee Savannah											.25	T.				.02	.82		.39				. 89	01			.07				
nbridge	Flint									T.		. 20	. 24	T.		.02	.04	. 40	T.	.12 T.	T.			. 58	1.14							
tler	do																	.76	.10						. 40							
nak	Savannah Coosa							T.	20	1.90								T 59	T	2	00.			. 20	.10			T.	.06			
lton	Savannah							1.	. 20									.22	26	.41	.23			. 29	.28				. 33			
yton	do							. 26		T.				70		. 25	. 20	T		.41			T. 3	2.65				. 42				
	Chat'ho'chee Flint							02	T.				.06				05	85	1.17	.22			56	75	.79							
ington it	Ocmulgee																	. 95	.35	.22			. 60	. 15								
hlonega	Chat'ho'chee									T.	.01					.24	. 03	. 44 .		. 11 .			. 102	2, 29			T.	. 14				.02
anond	Tennessee Oconee							.01	1.30	.25		.34					.02	T.	.06	.49	. 41	.57	. 45	T.	. 25			.31				.02
stman II	Ocmulgee											T.						.01		.11				. 02	.04				T.			
onton	Oconee Savannah																	50 .		. 55 .				.80								.70
periment	Ocmulgee							.08										. 69		.06	.04		.20	. 75								.20
t Gaines	Chat'ho'chee								.10	.15			.70				. 15	. 25	T	.06					. 40							
nesville	Savannah															24	30	.30						. 40	.54			.12				
nnville	Altamaha				****					. 22	.03	T.									T.	T.			.07				.02			
e	Coosa						.06	.08									. 03	.39 .			. 15	. 76	. 65	2.01			. 01	. 01				. 55
	Ogeechee				••••													. 68	38	1	. 83	Т.	. 28	.15	29							1.34
ffin	Ocmulgee								.12					. 03				.17	. 55		. 18			. 72	. 54							
rison	Ogeeche									1.10	. 50	.78					. 10 .			.12					. 73							
twellwkinsville	Savannah Ocmulgee								01	02	01	01		. 25				. 65						. 92								
hland Dam [[Chat'ho'chee									.02			. 05	T.				. 00	. 04 .					. 01								
ip	Altamaha								. 04	.10		.08							. 08 .				. 05		.06				.17			
t Mountain	Savannah Chat'ho'chee										50							. 30 .		.05	. 48		. 30	. 25	. 02			.09				. 05
isville	Ogeechee								1.54		. 26						.23			.05		. 02	. 20	. 10								. 58
	Ocmulgee								.09	.09		.02						. 02	. 04					T.	. 46							
mber City	Chat'ho'chee						. 02	T.		T	783		59				oi	. 35 .	1	. 58	07		. 15	. 43 .								
mber City !	THE PARTIES OF THE PA			****					T.	T.								. 48 .			32	59			. 11						****	. 20
mber City	Flint																- 44					-										
mber City npkin con rshallville	Flint Oconee											. 12					.02	T. .			T				. 32							
mber City	Flint Oconee Ogeechee								. 10	. 25		. 10						T. .			Т.		.15		. 10				. 14			
nber City npkin son shallville edgeville en itezuma	Flint Oconee Ogeechee Flint								. 10			.10						T . 10 . . 22	.41		.12		.15	.03	. 10							

Table 2.—Daily precipitation for May, 1913. District No. 2—Continued.

Stations.	Watershed.	_		1	1	1	1	1	1		1	1	1	1	1	Day	1 1110	artii.			1	1	1	1	1	1	1	1	1	-	MAI.	1
	1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
GeorgiaContd.																										1			1	1		
int Peter	Savannah																	. 50		. 38				.77				. 35				
ulanitman []	Suwanee								. 68	. 04			.08	.70				. 20	.71	****	.07		52		F134							
mhurst	Coosa							. 62	. 34				T.			.02		. 55					. 93	1.35				.00	10000			. 60
saca	do							1 . 25	. 03			1	****	****				. 50		• • • • •	35	. 45		2.04 2.32	.04			T.				
me George	St. Marys									. 25		1.47	T.						. 25		. 18	. 65			. 35	T.						
rannahtesboro	Savannah Ogeechee								.19	.50	.11	.06		T.		. 56	T.	.08 T.	T.			.04		T.	.05			.17				T.
botton	Chat'ho'chee									. 03				.06				. 56	. 03				00	. 41								
lapoosa omasville	Tallapoesa Ocklocknee					1	T.	.11	.17	T	T		83		14	T.	T.	. 61					T.	53	1.46	••••	• • • •	T.		••••		27
ceoa ldosta	Savannah								. 40										. 10					1.18					.11			
dosta	Suwanee Coast											T.		T.			.10					.10		.30	. 85	••••		. 50		****		
shington	Savannah									.07									.10		1.20			. 34					T.			
yeross	Satilla Savannah								T.	.20	1 45	.25						.02			T.	. 03	. 54		. 28		••••		1.15			••••
st Point	Chat'ho'chee												. 09					. 88	T.		. 98			. 22	. 70							
odbury]	Flint								T.									. 25	. 53		. 30			.86	. 70	••••						
Florida.																				*		91										
lachicola	Coast						****				.10	. 10	. 40					. 90						1.25	. 20							
adia on Park	Peace Creek. Kissimmee.	T.					1		. 93	. 12		. 07	2.95	. 05			-		.02	. 18	1.65	.08	••••	.39	. 69	.04		.16				
tow	Peace Creek.				1.00					. 07	15		. 38	63		50.03			. 83		16	. 33			. 03	. 25						
sengerdentown	Kissimmee Manatee				100		1	33.5		1 1W	1	1 50	5/13	0.5					.00	. 65				T.	.60							
stol	Apalachicola															1.20			. 76						1.30							
ooksville	Withlac'chee Coast								. 20									. 15							1.22				••••			
ar Keys	do								. 45			. 52						. 12						. 13	. 26							
rmontscent City	St. Johns											T.	. 78					.12	08		T.	.02		. 28	. 27							
Land	do									.27		.01	1.05	. 13				.12				.02		.00	. 43							
stis	Lake									.02			61					04	1			89	1	. 45	.42				T.			
leral Point	St. Johns Sebastian								. 10	.04	Т.	. 16	1.00	****			.14	. 57	. 79	.30	.03		T.	.11	. 50							****
t Lauderdale .	New		. 32																	. 43					1.25	. 08	2.35	. 65	. 52			
Meade Myers	Peace Creek. Caloosah'ehe					****	37			. 60		. 93	1.00		T			.01	T		.17			89	. 94		••••	. 92		17		••••
t Pierce	Indian		****								.21	. 07	1.07				. 25	.06	. 43	.03				.61	. 45	. 37			. 03			
nesville	Lake Coast						T					Т.			.60			07	.75				.76	.02	1.45				****	****	****	****
smere	Lake								.10	.02			1.27					T.				. 55		T.	. 39							
fin	New Nassau								.16				2.35									.37			1.15			. 18				
iard nestead	Coast								. 10										.28			.22			1.32	. 59	1.89	1.63				
poluxo	Lake											. 17	. 89	.76			.08		. 08					.07	1.65	. 81	. 03	.11	. 02			
erness	Withlac'chee St. Johns								.25			. 09	T.	T.				. 35	T.					. 19 T.	. 72	****	****		****			
er	Suwanee			****				.05		.75						T.		1.10	. 05	1.55	. 05			. 10								
west	Coast	T.								.05		. 05	1.71		50			. 25	T.				T.	.01	. 45	.95	1.20	.17		.04		****
simmee	Kissimmee								. 35				1.45					T.		. 12				. 16	. 25							
e City	Suwanee							1.02	T.			.05			.05		. 10		.70			. 15	.13	.18	. 32		••••		••••			
k No. 1	New										. 10	. 65	1.45	.08				. 00	. 65	.02		. 19	.01	. 42	. 82	2.20		. 14				
erne Park	Peace Creek. St. Marys									. 26 1. 33		1.20	1. 10					. 08	40	. 12	. 35			. 12	. 80							
lison	Suwanee								. 13	. 05	. 09	. 04	. 70	.58			. 15				. 12	. 15	.28		. 83							
abarianna	Indian Apalachicola							1	T.	.02	.08	. 01	.09	. 22		49	. 01	. 08	. 23					. 03	1.09	.06						
ritts Island	Indian	. 17								1.21	.29		. 15	T.		. 10		T.	.22	.02				. 09	.04	T.		. 12				
mi	Coast	T.	.08									1.70	. 21											. 05	3. 69	2.69	T.		• • • •			
dleburg	St. Johns Escambia										****		.90	. 15			1. 42	.31		.09	1.35			1.25	.01				1111	****		
int Pleasant	Apalachicola												. 14		. 17	. 05		1.75	. 10	. 45				2. 10 .		****						
v Smyrna	St. Johns					***			10	70	. 04	10	1 23	. 00				.39	***	.23		. 05		1.25	1.30 T.		****	****	••••	****		
nge City	do										. 04	. 15	. 25	.04				. 07	. 11					. 15	. 31							
ndosacola	do Coast					****			T.	. 18 T	.00	. 15 T. T.	. 20	.47			.74	.07	.07 T	. 42			.56		. 25	. 42				****		
ellas Park	do								.20						. 45									. 03	1.47							
t City	Hillsboro Caloosah'che			****		****				1. 40		07	. 10					.08	.05		. 10				2. 45		.02	.08	. 17			
akwell	Withlac'hee.								.02	.02	. 10	.01	. 95	.00				.20	.30	.20	. 56			. 15	1.42			. 00				
Augustine	Coast Kissimmee												.05					. 20		.02	T.				. 45	.08						
eo	Withlac'hee.								.83	.32		.04						.28		T.	1.			. 35	. 70				****			
l Kev	Coast		T.										T.		.34									T.	. 25	. 69	1. 19					
ord [] ıma Heights	St. Johns					****						.02	. 12	. 06				. 19	***		. 10			.09	. 62	.09						
zerland	do								. 12		. 25		. 12					. 26 .			. 14			1	. 12							
anassee II	Ocklocknee . Coast					T.		T.	.14				T.	. 15				.50	T.		.20			. 15 1	. 63							
paon Springs	do								. 12			. 30		.22					**					. 69 2	2.00							
sville	Indian Chocta'chee.								T.	. 29	.01	.02	. 97	T.				15			. 04		T.	.30	.03							
Sau	New		. 10						1,	T.		. 10	1.55	.22				. 10			.07		T.	T. 1		1. 45	. 12	.11	T.			
Alabama.																																
a []	Chat'ho'chee									10			T.	00			T	44	T		T		. 20	. 30	28							
alusia	Escambia					****				. 18	T.							. 44					1.70	T. .	.40							
iston	Coosa						T.				T.		T.				. 79	.20		T.		.01	. 46	1.09			T.					.39
villeurn	Tallapoosa		- * * -						47				:ii		m		05	.40 .		01			. 95				••••					1.50
ton III	Alabama						.20		. 31				1. 40		1.		.03	.22			. 10			1.84								
nuda	Escambia Bl'k Warrior				1			10	T	T.	. 37		T		06	T	.29	08		. 19	. 01		. 54	00	- 1							

Table 2.—Daily precipitation for May, 1913. District No. 2—Continued.

Stations.	Watershed.														1	Day	of me	onth														
Distributes	wateraned.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
labama-Contd.																											-					
era 11	Coosa								T.				. 15					.38				20	. 30	1 87								
mp Hill	Tallapoosa Alabama Coosa																. 05	1.00					. 45	. 68								
ronelle	Alabama							2. 14	20		. 46		. 59				. 25					. 10	3.20	.78								
nton	Coosa							****	. 52		. 10		. 03					. 48			. 10	. 04	. 06	1.47	. 02							
dova	Tombigbee Bl'k Warrior do Tallapoosa				1	*****			****	****			****			****	. 29	1.70				1 47	5. 20	2.41	3 70							
lman	do						. 10)				1	. 15			****	. 14	. 00		T	2 00	1.65	2 25	2.02	2. 10		****		T	****		
deville	Tallapoosa Coast Tombighee								T.		T.		T.					2. 15			4.00	1. 00	2.20	1.05	.05		****	****	1.	****		. 50
phne	Coast									. 20		T.	T.	2. 10			. 45	T.					. 40	1.03								****
mopolis	Tombigbee Coast Chat'ho'chee Escambia								. 18		. 10							. 35					. 40	2.13								
thanfaula II	Chat'ho'chee		****					T	24	T. 11			.03	·		.04					T.			. 14	. 76							
ergreen 11	Escambia	1	1					1.	T	1.	15		24	44	****		1.	24	.08		****		****	. 04	. 88							
maton	do					1		T.		T.	T.	****	56	T	T		89	.02			****		66	. 90	****		****					
t Deposit	do								.01	. 12	T.	. 05		T.			.00	. 20			****	****	.00	. 40	T					****	****	
isden II	Coosa								T.									. 36					.28	2. 47	. 05					****		****
at Rock	Chat'no chee										. 04	. 05	. 05	T.				. 11	. 55				T.	. 10	. 49							
ensboro	Bl'k Warrior								26		. 42		. 15		****	1 01	10	. 84	****		. 14		****	1.45	. 10							
enville II	EscambiadododoCoosaChat'ho'chee							10000	.00	1		1	.00		****	1. 21	. 10	.07	****		.00	. 33	1. 48	50						****		
milton	Tombigbee									. 08		. 03	, 02		. 18	.00	.38	. 30	****			1.05	1.35	70	****	****		****				
aling Springs [].	Escambia Tombigbeedo Escambia Tombigbee						T.		. 08			. 17	.09		T.			. 72		.01		. 03	2.00	1.96				****	****	****		****
nland Home	Escambia								1.65		. 05		. 08				.30	. 29					.21	. 07								****
k No. 4	TombigbeeCoosado								. 11		****		****		****		.32	. 65			****		. 55	2. 15								
ple Grove	do	1				1	T	T				****	0:		****	****	97	. 80	****	****	. 30	· · · · ·	. 87 1. 85									
itone II	do						1	T.		****	****		.00			****	. 00	74			. 00	9.0	1.80	. 09	14		T.					.21
stead	Tallapoosa												. 32					.30			.36	. 00		84	. 19							
ple Grove	Coast										. 26	.01				.01	.38		.04				. 33	. 56					1000	1	****	
atgomery	Alabama							T.		T.	T.	T.	.70				. 95			T.			. 12	.59			T.					. 02
onta	do do							. 45		****		. 17			. 11		. 25			T.		.02	1.26									
lika	Tallapoosa Coast Alabama Tombigbee Coast							. 00	T				92				. 48	10		.07	. 30	. 65	. 75	1.53								
rk	Coast								T.	T.			45					70	****		1. 32	T		- 17	. 55							
ttville	Alabama								. 16	. 15			. 48				. 25	. 28			47	4.	60	. 00	.00							
hmataha	Tombigbee						1.05				. 20	T.					. 52	. 07		. 12		. 82		1.42								
ertsdale	Coast							. 03			. 15	T.	. 13			. 08	. 83				. 04		.38	.39								
na inghill	Coast								. 12		. 18	T.	. 68					. 40	****		****	****		1.62								
adega	Coast								. 00			.02	. 10				. 35	. 50			700	190	0 10	1.30								
assee	Tallapoosa Tombigbee								.33				. 13				. 11	83			39	1.	2. 10	10	50							
masville															.35			. 05			. 0.0			87	. au							
7																	. 04	. 36					.08	. 44								
caloosa kegee	Escambia Bl'k Warrior		****			****			T.		. 01		.01			. 01	T.	. 20					.08	2.60	T.							
on Springs	Bl'k Warrior Tallapoosado Bl'k Warrior			****					16			. 14		10				.40		. 24			. 33	. 35								
ontown	Bl'k Warrior								. 20					. 10				.00					. 95	50	.41							. 10
ey Head	Bl'k Warrior Coosa						T.	T.									T.	.60			. 18		. 63	1.62	****		T		****	****		T
umpka	do								. 28				. 27					. 62			. 13			. 90		****			****	****	****	1.
Mississippi.																									-							
Atsassarppi.																																
rdeen	Tombigbee										29		13			TP.	16	91		20			1.53	. 50								
icultural College	do					. 01	.01	.80				. 03			****	.12	. 20	.10	****	. 20		90	1. 10	25		****	****			****	****	
St. Louis	Coast						. 94	. 28	. 04	****		. 53	.52		. 20	.01	.98		T.				1 98	11					1			
xi	Tombigbee						.03																									
neville	Peorl						.06	70									. 33			. 01		.78	1.08	.10		T.						
ins	Pearl						96	. 10	. 14	. 00			. 00		. 04		.36	. 18			. 48		1.63	. 64								
mbia mbus	Pearl							1.49		.01	.00					. 40	T	05			06	. 20	$2.90 \ 2.60 \ 1$	00								
mbus []	Tombigbee							T.	.08		. 05					. 27	.27	. 45	T.	.50	. 00		. 70	2.03	****					****	****	
tal Springe	Pearl Tombigbee Pearldo		****					. 40					.30				. 35	. 13					1. 12	. 65				****				
aburg	Chio'ocow'ov						T.	T.	****		. 19						. 25	. 24			T.	T.	. 98 1 1. 50 2	1.74								
on a prise	Tombighee		****			****	****	02	. 26			. 10	. 05			. 48	.74	. 35			.02		1.50 2	2.02								
ontiesburg []	Leaf	****	****			****		40		****	19		84		****	.07	.77	70	. 03		. 03	. 93	1.20	. 36				. 09				
ehurst [Parl							. 44			. 12	****	.05	****	****	****	04	25		****			71	. 76	****		****		****	****	****	
ory	Chic'asaw'ay								.73	. 22	. 05					.02	1.80	. 20		****		1.83	3. 20 1	50			****		****	****	****	
son	Pearl					.71	1.66				. 03		. 01				. 11			. 04		. 95	1.61	. 05			****		****		****	****
	Toof							. 12				. 10					.70	. 10					.80 2	2.00								
elesville	Chio'acaw'er		****	****		T.	. 24	. 05		. 21	. 63	. 05			T.	T.	1.70	.32		. 10	T.	. 05	4.00 2	2.40			****					
sville	Pearl.						1 05	. 11	. 92	****		05	. 68	****	****		7.	. 14				T.	. 15 3	3.57								
eill	do						.11	.85	****	T		.00	05		22	.08	. 11			T.	03	. 29	2.07	. 46								
on [[Tombigbee							. 25			.90		T.		. 00	. 18	. 13	.33	****	.05	. 03	1.40	1.77	35							****	
nolia	Pearl						1.17	.01	.01	.01				. 01		T.	. 04	. 99		.08		.67	2.18	. 00	****	• • • •		****				
dian	Chic'asaw'ay	***						. 73		. 91	.11					1.48	.86				T.	. 48	2.58	. 09				****	****	****	****	
ticello	do Chic'asaw'ay Tombigbee. Leaf Parl Chic'asaw'ay Pearldo Leaf Chic'asaw'ay Pearldo Tombigbee. Pearl Chic'asaw'ay Pearldo Tombigbee. Pearl Tombigbee. Coast Coast			****		· · · ·	****	. 22	.71				.42					. 25					1.003	3.65							****	
lona II	Tombighee					T.	. 33	.33	T.			. 17				. 05	. 35			.02	. 01	. 04	1.87	.02								
lona []	Coast.						****	. 15					10	9 40			. 18	. 20		. 84			2.45 1	. 22								
lington	Pearl						.00	.21		****		30	. 10	2.46	24	m	. 47	m	T	08	.06		# 2	2.78								
erville	Tombigbee.							. 41				.00		T	. 04	1.	1 45	1.	1.	.07		72	1 60	.90	**						****	
outa []	Chic'asaw'ay								. 40				. 20				. 19	. 20				. 10	38 1	70	****			****	****		****	
elo	rearl Tombigbee Coast Pearl Tombigbee Chic'asaw'ay Tombigbee Chic'asaw'ay						.57	T.								.02	. 53			. 05	. 14	1.22	1. 10	.39		****	****	****	****		****	
nesporo II	Unic'asaw'ay							T.	.30		. 40	2.10	. 05				T. 1	1 48	-		T	-	15 1	70							****	****
dland									par.				. 0.01					L. TEO					. 10 1	. 14							0000	

^{*} Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

					Virg	inia.												N	orth Ca	arolin	a.							
)ate.	Calla	ville.	Spr	ot ings.	Lyne	hburg.	Nor	folk.	Richi	mond.	Char	lotte.	Eder	nton.	Faye vil	ette-	Hatt	eras.	Ne berr	w- 1.§§	Rale	igh.	Reid	sville.	Salisl	oury.		ming
	Max.	Min.	Max.	Mi																								
1 2 3 1	82 91 94 93 91	36 42 50 48 49	79 79 84 85 83	35 50 53 49 47	83 91 92 92 90	40 48 52 51 50	74 87 87 87 87	49 54 63 64 64	79 88 92 90 89	46 48 52 57 56	80 86 89 90 91	51 57 61 64 61	80 90 93 89 88	55 50 51 53 51	85 92 95 96 93	43 57 57 55 59	71 80 82 81 78	52 60 62 64 66	81 89 92 89 88	46 50 54 57 58	81 89 92 94 89	51 58 65 62 59	85 92 94 95 93	47 54 57 47 55	85 86 91 93 92	46 58 51 52 50	79 86 91 92 83	
3 7 3 9	91 83 71 84 75	55 60 50 47 50	79 75 66 74 74	53 50 37 43 40	86 69 71 83 69	57 54 46 46 47	92 80 66 81 60	59 62 55 56 50	91 68 73 82 65	56 60 50 52 46	87 75 66 80 71	64 61 55 55 56	93 81 78 83 72	61 61 52 55 58	92 86 65 83 71	55 60 56 54 59	79 78 70 75 67	64 63 63 64 53	91 86 77 82 71	63 62 55 59 59	88 81 64 82 66	62 56 55 53 50	91 77 63 84 72	60 55 52 47 56	85 72 68 81 78	56 61 55 51 54	88 86 73 76 72	
	64 72 85 87 78	31 33 45 58 52	78 67 74 76 77	34 34 38 48 50	65 69 83 78 78	38 37 43 52 52	- 58 65 81 79 72	44 44 50 56 56	62 68 83 75 78	38 39 47 56 54	68 74 80 89 84	44 46 57 62 64	72 84 90 78 88	36 49 63 56 66	67 75 83 91 93	41 40 53 61 66	56 66 74 76 77	48 46 61 65 64	66 75 83 88 89	43 42 51 61 60	62 72 81 86 86	42 41 57 64 57	68 76 85 91 85	38 39 54 58 54	75 80 83 87 90	41 38 51 50 60	64 68 77 85 84	
	87 75 77 82 83	61 63 36 53 56	75 71 75 76 76	57 56 58 53 52	84 71 83 83 71	61 58 56 57 58	86 72 76 72 74	64 61 58 58 57	87 72 77 77 77	62 57 55 59 59	85 71 83 86 84	63 63 61 66 62	77 77 78 88 88	63 58 68 55 67	91 76 84 89 86	68 63 61 63 63	76 77 75 79 79	68 67 65 64 66	90 78 82 90 88	64 66 64 64 63	87 71 80 84 84	65 63 61 64 63	89 75 86 85 83	60 63 59 61 60	88 86 83 84 85	61 60 55 50 51	79 73 83 86 81	
	87 85 84 80 77	55 55 68 56 50	74 73 71 59 71	55 56 54 48 47	81 81 74 68 74	60 66 58 54 50	83 84 83 75 74	64 69 70 59 57	85 84 82 69 75	58 66 59 56 52	83 80 76 71 74	65 65 59 55 51	88 87 78 78 78	70 70 65 53 53	90 86 86 77 78	66 67 69 59 57	80 80 79 75 71	69 72 69 63 63	90 89 86 74 78	65 68 70 67 53	87 84 83 69 75	68 68 65 58 53	82 84 80 73 78	64 65 67 54 49	85 85 77 75 80	60 64 67 66 48	83 81 79 76 76	
	81 75 68 79 88 83	48 61 58 49 61 59	73 69 68 71 81 79	58 55 53 47 53 57	78 69 75 82 88 79	54 61 59 56 62 64	77 74 66 77 85 76	58 62 61 58 60 63	79 72 69 78 86 81	57 60 59 55 62 60	79 72 76 87 91 88	58 56 57 61 67 71	78 73 78 83 90 82	61 62 57 61 61	83 78 74 86 94 88	53 58 58 59 66 70	74 77 72 76 79 76	60 63 61 63 69 64	83 81 74 84 90 88	55 62 60 55 63 69	81 70 71 82 91 83	57 58 58 61 67 70	80 71 76 86 91 86	54 59 58 56 65 68	78 78 78 88 91 90	53 50 56 67 62 69	77 75 69 83 92 87	
ns	81.7	52.1	74.6	49. 0	78.9	53.1	77.0	58. 2	78. 5	54.6	80. 5	59. 3	82. 5	58. 1	84.3	58. 6	75.3	62. 6	83. 6	59. 0	80. 5	59. 1	82.5	56. 0	83.1	55. 3	80.1	64
							Sc	outh Ca	arolina	•												Geo	rgia.				39	
ate.	Charle	eston.	Colu	nbia.	Conw	ay.§§	Fergu	son.§§	Geo	rge- wn.		en- e.§§	Ne ber	w- ry.	Soci Hi	iety	Albai	ny.§§	Atla	nta.	Aug	usta.		ilon-	Mad	on.	Ror	ne.§
	Max.	Min.	Max.	. M																								
	73 80 85 87 83	56 57 59 62 65	82 86 91 93 92	51 57 57 60 64	85 88 92 98 94	46 47 49 50 56	82 86 90 92 90	45 57 59 68 56	78 86 90 90 85	54 56 58 68 57	78 84 86 87 90	42 49 50 50 53	79 80 87 93 93	43 50 48 50 55	83 88 93 95 89	56 59 55 53 52	84 85 90 92 91	56 58 60 60 61	81 82 84 86 88	57 59 64 65 68	80 84 88 92 93	50 52 54 55 56	82 84 86 87 88	47 49 49 53 53	81 82 85 88 88	54 53 53 57 56	85 85 88 90 90	
	84 87 73 75 85	63 64 65 61 63	89 85 69 83 80	59 60 59 55 62	94 92 80 80 81	61 56 58 57 57	89 86 70 82 81	58 60 61 61 64	88 78 77 78 83	62 53 64 68 58	86 80 70 79 76	54 56 57 52 53	90 84 75 85 82	56 60 60 55 56	92 88 68 82 77	57 56 56 60 50	94 86 87 85 90	61 62 63 60 60	86 79 76 80 80	65 60 58 56 61	86 82 74 83 85	60 63 57 60	86 79 71 76 79	57 57 55 51 53	85 79 80 81 85	60 61 62 59 58	89 84 80 86 81	
	66 69 76 83 84	55 61 60 67 68	70 77 82 89 88	52 51 56 62 65	75 77 85 92 92	47 42 48 60 64	71 78 83 90 90	60 57 60 67 70	65 73 83 88 88	52 44 52 62 65	67 74 80 86 83	42 43 49 57 57	75 79 85 91 91	52 46 53 62 61	68 76 83 90 91	44 56 60 62 60	86 80 78 87 90	58 58 59 58 61	70 70 80 84 84	58 55 55 63 64	70 75 81 87 86	57 51 57 62 66	70 69 81 88 81	53 47 53 54 56	70 69 80 86 87	58 58 55 61 63	76 75 88 90 90	
	79 74 83 77 78	69 68 68 67 69	87 74 87 90 80	65 66 62 65 63	90 90 91 95 89	62 67 63 60 63	88 74 88 91 89	73 67 71 72 74	86 78 82 89 85	65 64 65 62 73	82 72 85 86 85	58 61 57 59 62	61 77 90 90 91	68 66 58 61 61	93 74 88 82 77	65 62 60 62 65	92 80 88 93 91	67 60 67 67 64	84 76 87 87 87 82	65 62 63 64 62	88 74 88 89 86	66 67 63 67 68	81 73 87 87 80	55 61 56 58 60	86 78 87 91 87	67 63 62 64 65	88 83 88 90 88	
	81 79 76 78	72 72 72 66 61	84 85 81 74 78	67 69 70 58 56	90 89 89 80 83	64 69 71 69 53	86 88 85 77 80	76 73 76 67 65	87 85 86 85 75	66 70 71 65 55	84 84 71 74 77	65 67 64 58 49	89 89 81 75 79	68 67 64 59 54	87 86 87 70 78	65 67 60 54 53	92 92 78 77 82	63 68 71 58 60	82 80 68 70 77	63 65 54 51 56	88 85 82 76 79	66 68 69 62 58	83 83 68 72 78	61 61 58 52 49	85 86 76 77 80	66 67 61 55 60	90 85 70 70 80	1
	76 81 80 83 98 94	63 67 61 65 71 75	82 76 82 91 95 93	55 62 59 62 69 75	85 85 82 90 97 85	58 56 54 64 71	85 85 80 90 98 95	66 60 69 67 77 81	76 83 78 88 96 94	52 65 67 55 78 78	79 75 80 88 90 91	52 58 56 56 61 65	85 89 82 94 96 97	53 64 55 58 63 71	84 76 80 90 96 93	62 58 58 55 64 66	86 85 88 92 98 99	61 62 62 64 66 67	79 74 78 88 88 92	64 57 54 64 70 63	82 82 84 93 95 97	56 64 57 61 66 71	79 71 77 87 87 90	56 55 56 54 58 68	83 85 84 93 95 98	55 63 60 60 63 65	85 76 82 91 93 97	

TABLE 3.—Maximum and minimum temperatures at selected stations for May, 1913. District No. 2-Continued.

Savar na Max. 75 83 86 88 87		Thorvil Max. 83 84 88		Warens		Poir Max.		Avon	1	Fo		Jack	son-	Key V	Wort	Ma	ri-	341-		Oca	.	Orlo	ndo	Pen		Talla
75 83 86 88 87 84	56 62 59 63	83 84 88	56		Min.	Max.	Min.	Mor	1				ie.	neg .	W Cob.	anna	1.88	Mian	mı.	Oca	ia.	Orlai	uuo.	col	a.	see.
83 86 88 87 84	62 59 63	84 88		89				max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
		91 92	56 57 54	86 89 91 93	49 51 50 49 49	83 84 85 87 88	49 52 51 55 56	81 85 86 90 91	57 60 59 60 62	84 85 87 89 92	60 60 58 63 64	-76 79 83 86 88	59 60 58 58 60	81 82 81 82 83	67 70 69 71 70	87 91 92 92 94	50 56 54 57 59	79 79 78 79 79 80	70 68 70 72 72	85 87 89 93 93	53 56 60 51 51	82 83 86 88 91	56 57 51 59 65	78 75 75 75 75 79	64 64 64 68 64	85 85 88 90 91
86 77 80 87	64 66 66 59 63	90 86 86 82 90	59 60 63 57 58	91 89 88 92 90	58 60 62 59 57	86 83 81 83 86	57 59 61 57 56	90 88 89 86 86	64 61 60 61 60	88 84 83 86 87	64 60 58 60 60	86 84 84 81 87	63 66 65 63 62	82 83 82 84 84	69 68 70 71 71	94 91 91 90 91	58 59 59 60 59	82 82 82 83 86	65 63 68 63 67	93 89 89 91 88	58 59 58 60 63	89 88 88 86 85	64 61 64 61 60	76 78 78 75 81	62 64 62 67 64	93 86 88 84 89
66. 72 77 86 86	58 59 62 64 66	81 72 82 84 87	61 59 60 61 62	75 71 84 90 87	60 59 55 62 61	74 71 81 85 86	59 57 57 59 62	88 85 78 85 86	63 62 60 61 61	86 87 84 87 87	63 60 62 63 62	74 74 78 84 86	63 65 64 64 65	2 82 82 80 83	72 69 71 70 74	89 77 86 90 88	61 62 59 62 63	85 79 79 81 82	60 61 72 72 72 73	97 83 83 86 90	58 52 59 62 60	85 80 78 85 90	63 64 63 59 60	82 74 75 78 78	64 66 67 72 72	87 71 82 84 87
83 78 86 82 82	66 68 65 68 67	86 82 89 89 87	66 63 64 66 63	89 83 91 93 91	63 68 64 67 63	87 81 85 88 86	67 64 60 62 65	88 88 90 90	61 70 67 68 67	86 86 87 87 90	64 67 69 65 66	85 75 85 85 85	64 67 68 70 70	84 84 86 86 85	74 76 75 74 76	89 90 89 95 90	63 63 64 64 63	81 82 84 82 84	74 75 71 69 76	90 84 88 92 90	66 60 63 65 65	87 83 89 88 89	59 68 69 68 64	77 80 83 84 81	67 69 69 70 75	85 78 86 91 86
83 82 81 78 78	72 71 71 65 60	88 87 73 79 82	61 67 65 60 57	93 89 82 82 83	65 70 70 63 60	85 81 71 73 79	64 66 67 52 52	89 89 88 81 86	68 66 70 67 68	90 91 89 82 82	66 66 72 72 69	86 85 84 82 79	71 69 71 68 66	85 85 86 84 84	76 76 75 72 70	90 90 74 81 86	62 67 69 56 68	83 84 84 82 79	76 75 75 67 67	91 90 85 83 85	64 70 66 67 60	89 90 90 82 85	67 67 71 72 64	80 78 75 76 79	74 67 59 55 58	87 85 73 78 83
78 86 83 87 95 98	62 67 59 67 69 70	86 89 87 93 96 98	57 61 60 58 67 67	86 89 86 94 99	55 62 59 55 64 65	83 83 83 91 93 95	55 63 55 57 60 65	87 90 89 91 94 94	66 70 69 63 65 67	83 85 86 84 86 87	71 72 74 71 74 74	81 86 85 90 93 94	61 69 64 65 71 70	83 84 84 84 85 86	71 71 77 74 74 74	89 90 92 98 100 99	58 62 56 58 62 68	80 83 88 86 86 86	67 71 73 72 70 71	85 81 88 93 95 92	60 62 61 63 63 62	85 88 89 91 94 95	66 65 71 64 61 65	80 81 81 84 87 87	66 69 65 69 71 71	85 87 86 93 96 97
	80 87 66. 72 777 86 86 86 88 88 82 82 81 78 78 86 83 87 89 59 59	80 59 87 63 66 58 72 59 77 62 86 64 86 66 83 66 78 68 82 67 83 72 82 71 81 71 78 65 78 60 78 62 83 59 87 67 83 59 87 67 83 59 87 67	80 59 82 87 63 90 66 58 81 72 59 72 77 62 82 86 64 84 86 66 87 83 66 86 78 68 89 82 68 89 82 67 87 83 72 88 82 71 87 81 71 73 78 65 79 78 62 86 86 67 89 83 59 87 87 67 93 89 89 70 98	80 59 82 57 87 63 80 58 66 58 81 61 72 59 72 59 77 62 82 60 86 64 84 61 86 66 87 62 83 66 86 66 78 68 82 63 86 65 89 66 82 67 87 63 83 72 88 61 82 71 87 67 83 72 88 61 82 71 87 67 83 72 88 61 82 71 87 67 83 72 88 61 83 72 86 67	80 59 82 57 92 87 63 90 58 90 66 58 81 61 75 72 59 72 59 71 77 62 82 60 84 86 64 84 61 90 86 66 87 62 87 83 66 86 66 89 78 68 82 63 83 86 65 89 64 91 82 68 89 66 93 82 67 87 67 89 83 72 88 61 93 82 67 87 67 89 83 72 88 61 93 82 71 87 67 89 83 72 88 61 93 83 72 88 61 93 84 65 79 60 82 78 65 79 60 82 78 65 79 60 82 78 67 89 67 89 83 59 87 60 86 87 67 99 98 67 99	80 59 82 57 92 59 87 63 90 58 90 57 66 58 81 61 75 60 72 59 72 59 71 59 77 62 82 60 84 55 86 64 84 61 90 62 86 66 87 62 87 61 83 66 86 66 89 63 78 68 82 63 83 68 86 65 89 64 91 64 82 68 89 66 93 67 82 67 87 63 91 63 83 72 88 61 93 65 82 71 87 67 89 70 81 71 73 65 82 63 83 72 88 61 93 65 82 71 87 67 89 70 81 71 73 65 82 63 78 60 82 57 83 60 78 62 86 57 86 55 78 66 82 63 82 63 78 67 89 60 82 63 78 65 79 60 82 63 83 59 87 60 85 59 87 67 89 61 89 62 83 59 87 60 86 59 87 67 99 66 98 70 98 67 99 65	80 59 82 57 92 59 83 87 63 90 58 90 57 86 66 58 81 61 75 60 74 72 59 72 59 71 59 71 77 62 82 60 84 55 81 86 64 84 61 90 62 83 86 66 87 62 87 61 86 83 66 86 63 83 68 81 86 65 89 64 91 64 85 82 67 87 63 91 63 86 82 67 87 63 91 63 86 83 72 88 61 93 65 85 82 71 87 67 89 70	80 59 82 57 92 59 83 57 87 63 90 58 90 57 86 56 66 58 81 61 75 60 74 59 72 50 72 59 71 59 71 57 77 62 82 60 84 55 81 57 86 64 84 61 90 62 85 59 86 66 87 62 87 61 86 62 83 66 86 63 83 68 81 64 86 65 89 64 91 64 85 60 82 67 87 63 91 63 86 62 83 72 88 61 93 65 85 64 82 71 87	80 59 82 57 92 59 83 57 86 87 63 90 58 90 57 86 56 86 66 58 81 61 75 60 74 59 88 72 59 71 59 71 57 85 77 62 82 60 84 55 81 57 78 86 64 84 61 90 62 85 59 85 86 68 86 66 89 63 87 62 86 86 85 66 89 63 81 64 88 86 65 89 64 91 64 85 60 90 82 67 87 63 91 64 85 60 90 82 67 87 63 91	80 59 82 57 92 59 83 57 86 61 87 63 90 58 90 57 86 56 86 60 66 58 81 61 75 60 74 59 88 62 72 59 71 59 71 57 85 62 77 62 82 60 84 55 81 57 78 60 86 64 84 61 90 62 85 59 85 61 86 68 86 66 89 63 87 67 88 61 78 68 82 63 83 68 81 64 88 70 82 67 87 63 91 64 85 60 90 67 82 67 87 63 91	80 59 82 57 92 59 83 57 86 61 86 87 63 90 58 90 57 86 56 86 60 86 66 58 81 61 75 60 74 59 88 63 86 72 39 72 59 71 59 71 57 85 62 87 77 62 82 60 84 55 81 57 78 60 84 86 64 84 61 90 62 85 59 85 61 87 86 68 86 66 89 63 87 67 88 61 87 87 68 82 63 83 68 81 64 88 70 86 86 65 89 64 91 64	80 59 82 57 92 59 83 57 86 61 86 60 87 63 90 58 90 57 86 56 86 00 87 60 66 58 81 61 75 90 74 59 88 63 86 63 72 59 71 59 71 57 85 62 87 60 86 64 84 61 90 62 85 59 85 61 87 62 86 64 84 61 90 62 85 59 85 61 87 62 83 66 86 86 86 82 83 68 81 67 88 61 86 64 84 85 89 64 91 64 85 60 90 67 87	80 59 82 57 92 59 83 57 86 61 86 60 81 87 63 90 58 90 57 86 56 86 60 87 60 81 66 58 81 61 75 60 74 59 88 63 86 63 74 72 39 72 59 71 59 71 57 85 62 87 60 74 77 62 82 60 84 55 81 57 78 60 84 62 78 86 64 84 61 90 62 85 59 85 61 87 62 86 83 66 86 66 89 63 87 67 88 61 86 64 85 86 85 64 91	80 59 82 57 92 59 83 57 86 61 86 60 81 63 87 63 90 58 90 57 86 56 86 60 87 60 87 62 66 58 81 61 75 60 74 59 88 63 86 63 74 65 77 62 82 60 84 55 81 57 78 60 84 62 78 64 86 64 84 61 90 62 85 59 85 61 87 62 86 65 83 66 86 86 86 82 63 87 67 88 61 86 64 85 66 88 81 64 88 70 86 67 75 67 86 65 89	80 59 82 57 92 59 83 57 86 61 86 60 87 60 87 62 84 86 58 90 57 86 56 86 60 87 60 87 62 84 66 58 81 61 75 60 74 59 88 63 74 63 2 772 39 72 59 71 59 71 57 85 62 87 60 74 65 82 86 64 84 61 90 62 85 50 85 61 87 62 86 64 80 86 68 86 66 89 63 87 67 88 61 86 64 80 87 88 62 80 63 83 68 81 67 88	80 59 82 57 92 59 83 57 86 61 86 60 81 63 84 71 87 63 90 58 90 57 86 56 86 00 87 60 81 63 84 71 66 58 81 61 75 60 74 59 88 63 86 63 74 63 2 72 72 39 72 59 71 59 71 57 85 62 87 60 74 65 82 69 77 62 82 60 84 55 81 57 78 60 84 62 78 64 82 71 86 64 84 80 70 86 65 86 86 86 86 86 86 86 86 88 81 64	80 59 82 57 92 59 83 57 86 61 86 60 81 63 84 71 90 87 63 90 58 90 57 86 56 86 60 87 60 81 63 84 71 91 66 58 81 61 75 60 74 59 88 63 86 63 74 63 2 72 89 72 59 71 59 71 57 85 62 87 60 74 65 82 69 77 77 62 82 60 84 55 81 57 78 60 84 62 78 64 82 71 86 86 64 84 50 82 61 87 63 84 64 80 70 89	80	80 59 82 57 92 59 83 57 86 61 86 60 81 63 84 71 90 60 83 66. 58 81 61 75 60 74 59 88 63 86 60 87 62 84 71 91 59 86 66. 58 81 61 75 60 74 59 88 63 86 63 74 63 2 72 89 61 85 72 59 71 59 71 57 85 62 87 60 74 63 84 64 80 70 90 62 85 61 86 62 86 65 82 69 77 62 79 77 62 86 65 88 61 86 62 86 65 83 74 88 <td>80 59 82 57 92 59 83 57 86 66 86 60 81 63 84 71 90 60 83 63 66. 58 81 61 75 80 72 80 86 60 87 60 81 63 84 71 91 59 86 63 72 59 72 59 71 59 71 57 85 62 87 60 74 63 2 72 89 61 85 60 72 59 71 59 71 57 85 62 87 60 74 63 82 69 77 62 79 61 87 62 86 48 82 71 86 59 79 72 86 64 82 71 86 59 79 79 86 61 87<td>80 59 82 57 92 59 83 57 86 61 86 60 87 62 84 71 90 60 83 63 91 86 58 90 57 86 56 86 60 87 60 84 71 90 60 83 63 88 66 58 81 61 75 60 74 59 88 63 86 63 74 65 82 60 87 62 87 60 74 65 82 69 77 62 89 61 85 60 97 72 83 86 64 84 61 90 62 85 59 85 61 87 62 86 65 83 74 88 63 82 73 90 83 66 86 66 89 63 87<td>80 59 82 57 92 59 83 57 86 61 86 60 81 63 84 71 90 60 83 63 91 60 66 58 81 61 75 60 74 59 88 63 86 63 74 63 2 72 89 61 85 60 97 75 77 62 89 61 85 60 97 75 85 62 87 60 74 63 2 72 89 61 85 60 97 75 78 60 84 62 78 61 86 62 87 60 74 63 84 64 82 71 86 59 79 72 83 59 86 62 87 61 86 62 86 61 87 62 86 65 83<td>80 59 82 57 92 59 83 57 86 66 86 60 87 60 87 60 87 60 88 67 88 63 85 60 87 60 88 67 88 63 85 60 87 62</td><td>80</td><td>80 59 82 57 92 59 83 57 86 61 86 60 87 60 87 62 84 71 91 59 86 63 85 60 85 60 81 66 58 81 61 75 60 74 59 88 63 74 63 2 72 89 61 85 60 97 58 85 63 85 60 81 66 58 81 61 75 60 74 59 88 63 74 65 82 69 77 62 79 61 83 52 80 64 74 77 62 82 60 84 55 81 57 78 60 84 62 78 64 82 71 86 59 79 72 83 59 78 63 75 86 66 87 62 87 61 86 62 86 61 87 62 86 65 83 74 88 63 82 73 90 60 90 60 78 86 66 87 62 87 61 86 62 86 61 87 62 86 65 83 74 88 63 82 73 90 60 90 60 78 88 65 89 64 91 64 85 60 90 67 87 69 85 68 86 75 89 64 84 71 87 89 70 86 88 87 62 88 66 88 89 66 93 67 88 62 90 68 87 65 87 70 86 85 70 86 74 95 64 82 75 89 64 84 71 88 63 89 69 88 88 88 88 66 89 86 65 89 70 88 65 89 66 89 70 88 65 89 66 89 70 88 65 89 66 89 70 88 65 89 66 88 70 86 88 87 68 88 70 86 88 87 68 88 87 68 88 87 68 88 88 88 88 88 88 88 88 88 88 88 88</td><td>80 59 82 57 92 59 83 57 86 661 86 60 87 60 87 60 87 62 84 71 90 60 83 63 91 60 86 61 75 67 88 63 85 60 81 64 62 85 59 71 59 71 57 85 62 87 60 74 63 82 69 77 62 79 61 83 52 80 64 74 66 77 62 82 60 84 55 81 57 78 60 84 62 78 64 82 71 86 59 79 72 83 59 78 63 75 67 88 66 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^{*,} b, e, etc., indicate respectively 1, 2, 3, etc., days missing from the record.

\$\frac{5}{2}\$ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR MAY, 1913.

DISTRICT NO. 3, OHIO VALLEY.

Prof. FERDINAND J. WALZ, District Editor.

GENERAL SUMMARY.

The extreme dryness of the first two weeks and the great range in temperature were the more important features of the weather conditions of May, 1913, in the Ohio Valley. In the period 10th-12th there occurred some of the coldest weather ever experienced in the Ohio Valley in May. Temperatures of 20° to 30° were registered in nearly all parts of the district and at a few places they were even lower, a temperature of 16° being reached at Deer Park, Md., on the morning of the 12th. Gonsiderable damage resulted from this unseasonably low temperature, especially to tender vegetables, fruit, and berries. Field crops, however, were not seriously injured. On May 1 the secretary of the Ohio department of agriculture estimated the fruit crop of that State at 90 per cent of an average crop, while on June 1 his estimate was only 52 per cent, the reduction being largely due to this cold wave. The night temperatures during much of the month were so low as to retard the

growth of vegetation.

The lack of rain during the first half of the month was beginning to be felt in all parts of the district, but especially in the western portion. Frequent showers over the central and eastern portions during the last half of the month relieved the situation in those sections, but the amount of rain received over the western portion was insufficient to materially relieve the droughty conditions prevailing, and at the end of the month the situation there had become acute.

There were only one or two rather shallow low-pressure areas that crossed the district during the month, conditions being largely dominated by high-pressure areas. Local thunderstorms did some damage in a few localities, but as a whole the month was unusually free from destructive storms. Hailstorms in Tennessee caused the most serious damage.

The following table summarizes the chief features of meteorological interest for the several sections of the district:

	Т	empera	ture.				Precip	itation			
Portions of States included in the Ohio River Basin.	Average.	Departure.	Highest.	Lowest.	Average.	Departure.	Greatest monthly.	Least monthly.	Greatest in 24 hours.	Average number of days.	Average snowfall
New York Pennsylvania Maryland West Virginia Ohio Indiana Illinois Kentucky Tenessee Alabama Georgia North Carolina Virginia	54. 4 58. 4 55. 1 61. 8 60. 9 63. 8 65. 3 66. 1 67. 2 69. 2 66. 4 62. 1 59. 9	-0.7 -1.3 -1.3 -0.9 -0.5 +0.8 +0.6 +0.7 +0.2 +1.3 +0.1	89 93 87 93 95 97 99 97 97 89 90 88	22 21 16 20 23 26 30 29 26 41 43 23 24	2. 43 4. 09 6. 59 5. 06 3. 31 2. 30 2. 39 2. 92 4. 22 4. 34 5. 67 5. 58 5. 83	-1. 82 +2. 49 +2. 11 +1 17 -0. 48 -1. 80 -2. 23 -1. 06 -0. 05 +0. 04	2.57 7.14 7.90 8.86 6.15 6.43 2.65 5.85 7.20 7.86	2. 20 2. 33 5. 56 1. 89 1. 86 0. 50 0. 65 1. 75 2. 63 4. 24 4. 41	1. 01 1. 70 1. 60 2. 22 3. 63 4. 00 2. 12 2. 36 2. 35 2. 70 2. 12 4. 50 2. 67	9 12 12 10 9 7 6 8 9 10 10 10	

TEMPERATURE.

The unusually cool weather which prevailed during the latter part of April passed off with the close of that month, and May began with more seasonal temperature conditions, although the minimum temperatures registered on the morning of the 1st were quite low over the central, southern, and eastern portions of the district, being below freezing at a number of the more elevated stations in the Appalachian section. It warmed up rapidly on the 1st, and during the following five or six days the average daily temperature ranged between 6° and 16° above normal, with maximum temperatures between 80° and 93°. Over much of the eastern section the highest temperatures of the month were reached during this period. A change to cooler set in about the 7th, and remarkably cool weather obtained until the 12th. On the 10th, 11th, and 12th some of the coldest weather ever experienced in May in the Ohio Valley occurred. Temperatures were below freezing in every section of the district except in the northern portions of Alabama and Georgia. Minimum temperatures of 20° to 30° were registered quite generally in practically all sections, while in western Maryland the temperature fell as low as 16° and 18°. Considerable damage was done by the severe frost as far south as central Kentucky and southwestern Virginia. The strawberry crop was practically ruined in some localities in Indiana and badly damaged over much of Kentucky. Fruit and tender vegetables were also hurt to a considerable extent, but damage to staple crops was immaterial.

The temperature was above the seasonal normal generally from the 13th to the 21st, except that on the 19th it was below normal over northern and central sections, also over those sections the minimum temperatures of the 20th were unseasonably low. Cold weather again overspread the district about the 22d and continued until the 28th, with average daily temperatures deficient in amounts ranging between 8° and 14°, with minimum temperatures registering in the 30's and 40's. The cool weather continued over the northeastern portion practically until the end of the month, but over the rest of the district there was a sharp reaction to warmer on the 29th, and during the 29th–31st the temperature was much above normal, with day temperatures ranging between 85° and 99°, the highest temperature for the month occurring, as a rule, except in the sections previously mentioned, on the 30th or 31st.

For the month as a whole the average temperature was not far from normal for any section, the variations being generally less than 2° in either direction. The departures from normal in the warm and cold periods, respectively nearly offset each other; also the average number of days with temperature above were nearly equal to those below normal, but the monthly and also the daily ranges on many days were remarkably great. Daily ranges in temperature of 30° to 50° and monthly ranges of 60° to 70° were not uncommon. The extreme range for the district

was from 16° on the 12th in western Maryland to 99° in Kentucky and Illinois on the 30th and 31st, a difference

RAINFALL.

Except in Tennessee and northern Alabama, where fairly good rains occurred on the 7th, there was little or no rain in any part of the district until the 14th, and droughty conditions became serious in many sections, but especially in Indiana, Illinois, and western Kentucky. Conditions were relieved somewhat by good and more or less general rains during the last part of the month. The most pronounced periods of rainfall were the 14th-18th, 21st-23d, 26th-28th, and 30th-31st. However, in many localities the moisture received in all these periods was not sufficient for the growing crops. As a rule the total rainfall for the month was above normal or ample over the eastern and southern parts of the district, over eastern Kentucky and southeastern Ohio, and ranged from 4 to 6 inches. Over the remainder of the district the rainfall was generally deficient, although there were from 2 to 4 inches over Ohio, northeastern Indiana, and western Tennessee; but over western Kentucky, southern Indiana, and eastern Illinois the total for the month was less than 2 inches, and in many places less than 1 inch. These sections at the end of the month were suffering acutely for want of moisture.

MISCELLANEOUS.

The following losses from wind squalls, lightning, and hail were reported:

May 7.—Several persons were seriously injured at White Plains, Tenn., when lightning struck a church.

May 8.—A heavy rain and hail storm caused consid-

erable damage at Tracy City, Tenn.

May 9.—A hailstorm occurred at Suwanee, Tenn... which lasted for about 15 minutes, and when it ceased the ground was white with hailstones.

May 13.—A young man was killed by lightning at Maysville, Ky. He had taken refuge in a barn which was struck. Also considerable damage was done by a

windstorm at Cynthiana, Ky.

May 14.—Considerable damage was done in Butler

County, Ohio, by lightning, wind, and hail.

May 15.—A large barn with all its contents was destroyed by lightning in Lawrence County, Ohio. A hailstorm caused considerable damage in Jackson County,

May 20.—Lightning struck a barn at Golconda, Ill., destroying the barn and killing several head of stock.

May 21.—Several houses, barns, and a number of trees of various kinds were destroyed by a windstorm at Savannah, Tenn. A number of persons were injured, but there were no fatalities.

May 24.—A young man plowing in the field near Scottsboro, Ala., was killed by lightning, together with

his team.

May 31.—Heavy hailstorms passed over Shelbyville and Chattanooga, Tenn., resulting in considerable damage. Several hailstones measured 8 inches in circumference.

Several thunderstorms caused damage in localities in Indiana during the last half of the month.

Rain during the last half of the month over the upper watershed of the Ohio River caused bank-full stages of water in some of the larger tributaries of that section near the close of the month. The Cumberland River was navigable to Burnside, Ky., from the 1st to the 10th, and again from the 20th to the close of the month.

TABLE 1.—Climatological data for May, 1913. District No. 3, Ohio Valley.

		-	years.	Temp	erature	, in d	legree	s Fah	renh	eit.	Prec	pitation	, in inc		days,		Sky.		diree	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	snowfall, nelted.	of rainy ch or mo	Number of clear days.	of pa	Number of cloudy days.	Prevailing wind cition.	Observers,
New York.																				
Allegany	Cattaraugus	1, 441 1, 800	19	54.6 54.2	- 0.7	89 89	4	23 22	12 12	48 48	2.53 2.20	- 1.82	1.01 0.86	0	10 8	13 10	14 13	8	nw.	Charles E. Whitney. Charles F. Hoffman.
lean	Cattaraugus	1,402	5								2.57		0.96	0	9					John W. Alles.
Pennsylvania.																				
leppo	Green	1, 135	12	59.6	- 1.4	88	4	23 27	11	46		+ 1.73	1.30	0	12	14	9	8	sw.	J. S. Hinerman.
aldwin eaver Dam	Butlerdo	1,404	7 19	58.00		88	4		11	40b	2.46 3.58	+ 0.48	0.88	0	10	11 9	11 3	7 19	w. ne.	S: H. Templeton. U. S. Engineer.
rookville	Jefferson	1, 173 770	22 10	58.3		89 91	4	23 29	12	54	3.75	- 0.07	1.45	0	13 11	12			w. w.	H. C. Bartholomew.
alifornialarion	Washington	1,078	28	61.6		91	4	29	11†	45	5. 19 2. 78	- 1.55	1. 13 0. 75	0	10	16	1	15 14	w.	Prof. B. U. P. Cobaugh P. O. Miller.
laysville	Washington	1, 127	9	60.2		90	41	23	11	47	4.04		1.18	0	10	16	8	7	w.	E. T. Buchanan.
onfluence	Somerset Venango	1,352 955	29 39	57.0	- 1.4	87	5	28	11+	45	5.27 2.85	+ 1.13 $- 0.46$	0.83	0	13 14	8	6	17 13	nw.	Grant Pyle. F. E. Dixon.
reeport	Armstrong	772	40					20		30	4.39	+ 0.44	0.83	0	12	11	1 2 7 25	18		Mrs. Anna R. Burtner.
reensboro	Green	768 950	24 17	56.8	- 0.9	90		95	12			$+ 1.76 \\ - 0.34$	1. 10 0. 73	0	13	13	7	11 6	sw.	James G. Cramer.
reenville	Indiana	1,350	16	59.8	- 0.6	91	5	25 27	11+	51 45	5. 46	+ 1.40	1.60	0	15	15	10	6	W.	A. M. Orr. R. W. Wehrle.
ohnstown	Cambria	1, 184	25	60.6	- 0.7	91	4	29	12	44	4.89	+ 0.56	1.33	0	14	6	18	7	SW.	R. W. Wehrle. E. C. Lorentz.
ock No. 4yeippus	Washington Westmoreland	718 1, 420	27	59.4	- 1.9	84	5	28	11	31	4.66	+0.81 + 1.21	0,82	0	12 12	10	6	15	SW.	R. T. McGowan. Murray Forbes.
losgrove	Armstrong	775	1 2.								3.25		0.64	0	12	17	0	14		C. J. Moore.
Pittsburgh	Allegheny	842	43	60.6 55.8	- 2.0	88	4 4†	33	10 12	33 51	3.11 3.83	- 0.19	0.85	0	13 13	8	8	15	nw.	U. S. Weather Bureau. F. J. Eagen.
aegerstown	Crawford	1, 116	22	55.0		86	5	23 24 29 24	111			- 2.21	0.80	0	12	7	17	7	nw.	J. G. Apple.
haron	Mercer	940	2	58.2		87	5	29	11+	43	2.47		0.90	0	12	18	0	13	nw.	Norman S. Powell.
omerset	Somerset	2,250 999	57 25	60.8	- 1.4 - 0.9	87 89	4	24	12 11†	44 42	5.33	- 0.04 + 1.17	1.02	0	10 11	12 13	10	11 8	nw. w.	W. M. Schrock. Wm. Hunt.
Varren	Warren	1, 137	24	56.0	- 0.7	93	5	28 22	11	56		- 1.35	1.35	0	10	20	1	10	w.	Anna Simpson.
Maryland.				1																
Deer Park	Garrett	2,457	20	54.6	- 2.0	87	5	16	12	56		+ 1.68	1. 19	0	12					S. P. Specht.
rantsville	do	2,351 2,461	20 14	56.0 54.8	- 1.0 - 1.0	86 86	5	22 18	12 12	42 52	7.90	+ 1.44 + 3.21	1.30	0	11	10	13	8	w.	J. S. Miller. R. E. Weber.
West Virginia.																				
Bancroft	Putnam	574	10	65.2	+ 0.8	93	51	31	11	48	3.96	- 0.16	1.81	0	11	12	5	14	ne.	R. E. Dent.
BeckleyBens Run	Raleigh	2,440 622	14 12	58.7 63.1	- 1.0 - 0.5	85 90	5	27 31	11	44 45	5. 11	+ 2.19 - 0.50	1.20	0	10	13 21	7 5	11	W.	John A. Ewart.
Bluefield	Mercer	2,563	19	62.8	+ 0.3	850	2†	30b	12	41b		- 2.28	1.35	0	4	16	5	8		J. D. Riggs. Norfolk & Western R. F
Buckhannon	Upshur	1,472	23	59.7	- 2.7	85	3† 4 5 5 4 4†	25	11	43	8.39		1.50	0	11	16	6	9		H. A. Darnall.
airo entral Station	Ritchie Doddridge	667 900	11	63.2	- 0.8	92	4	26	11	45 48	4.98	+ 1.56 + 1.15	1.30	0	15 10	9	12 14	10 8	w. sw.	Van A. Zevely. G. W. Sherwood.
harleston	Kanawha	598	28			90	5	26 34	11	38	3.56	- 0.40	1.52	0	11	20	5 6	6	W.	R. C. Hewes.
reston	Wirt	612	12	63.1	- 0.3	91	4	29 25	11	47		+ 0.72	1.05	0	12	13	6	12	sw.	J. M. Reed.
buba Doane	Jackson Wayne	544	13	62.2	- 0.8	88	41	25	11	46	4. 16	+ 0.79	0.74	0	12	9	18	4	w.	C. T. Perry. L. A. Smith.
lkhorn	McDowell	1,933	21	62.0	- 0.8	87 86	4† 5	32	11	39	3.98	- 0.30	1.20	0	10	13	14	4	w.	J. J. Lincoln.
lkins airmont	Randolph Marion	1,940 879	14 21	58.6 62.4	- 0.6	86	5	25 27 28 27 26*	11	45 51		+ 1.65	1.56	0	17	19	10	12 11	n. w.	U. S. Weather Bureau. F. P. Hall.
lenville	Gilmer	738	24		- 0.8	92 93 90	4† 5	28	11	49	4.90	+ 2.23 + 0.83	1.23	0	8	11	12	8	w.	Joe N. Craddock.
rafton reen Sulphur Springs.	Taylor	985	21	62.8	+ 0.6	90	3+	27	11	49 49 50a	7.13	+ 3.22	1.74	0	10	18	12	8 12	W.	Joseph Gerken.
linton	Summersdo	1,600 1,400	18 24	61.1	- 0.6 - 0.7	89a 92	6	26a 31	111	50a 48	3.32	+ 0.25 + 0.39	1.25	0		12	6ª 5	12a 14	W. sw.	Arthur George. J. B. Lavender, C. E.
olcomb	Nicholas			58.8		00		25	12	460	6.36		1.01			14	1	16		R. E. Ferguson.
luntingtonewisburg	Cabell	2,200	18	64.6	- 0.3	91	5	33 35 e	11 13	39	6. 44	+ 2.53	2.22 1.53	0		18 25	1 2	12	w. sw.	L. H. Hutchinson. Geo. T. Argabrite.
ogan	Logan	665	11	67.0	+ 1.0 + 0.2	88 91	4	35	11	41h	3.31	+ 0.24	1.00	. 0	10	16	3 5h	- 3 2h	e.	Dr. J. E. McDonald.
ost Creek	Harrison	1,033	17	58.6	- 2.5	86	4†	22 31	114	48	5.90	- 0.83 + 1.62	1.52	0		17	8	6	W.	Allen Smith.
ladison	Boone	704 967	8	65.4		91k 88	3†	25	11	51°	5.32 5.73	+ 1.88	1.66	0		10	6	3.	w.	S. E. Bradley. Jas. A. Morgan.
arlinton	Pocahontas	2, 169	17	56. 21	- 3.3	82	3+	20	12	52h	5.20	+ 1.19		. 0		151	51	3h		C. J. McCarty.
organtown	Monongalia Marshall	1,250 640	39	61.6		82 88 93	5	28 28	11	41*	5.01 3.16	+ 1.44 + 0.17	0.96	0		16 16	6 7	8	S. W.	Horace Atwood. M. L. Brown.
oundsville ew Cumberland	Hancock	987	14	59.4	- 1.6	88 90	4+	27	111	46	3.35	+ 0.21	0.90		1 7	15	4	12	8.	Frank S. Evans.
ew Martinsville	Wetzel	634	20	63.6	- 0.1	90	4† 2† 3	26	11	47	5. 12	+ 1.55	1.16	0	9	17	6	8	S.	Wm. Ankrom.
uttallburgarkersburg	Fayette Wood	2,252 638	21 25	58. 46 63. 4	-3.3 + 0.1	82 90	5	28 33	11	40s 38	4.47	+ 0.98 + 1.34	1.20		8 15	12	120	2°	n.	Miss Donna Tully. U. S. Weather Bureau.
arsons	Tucker	1,662	14	58.4	- 1.0	89	5	23	111	51	6.46	+ 2.47		. 0	11	15	10	6		J. W. Swisher.
hilippi ickens	Barbour Randolph	1, 192 2, 785	21	50.4	- 1.4 + 0.1	89	3+	24 23	11	50 44	8.27 7.42	+ 4.12	2.04	0		11 12	10	10	W.	J. D. Dadisman.
oint Pleasant	Mason	553	23 23	64. 4	- 1.3	92	4	29	11	47	6.26	+ 2.60	1. 10			12	2	17	w. se.	Dr. J. L. Cunningham. W. D. Holmes.
owellton	Favette	904	16	63.3	- 0.7	90	4+	28	11	46	4.27	+ 0.23	1.22	0	11	11	17	3		Morris Hansford.
rincetonobertsburg	MercerPutnam	2,469 574	13	57.6 63.0		82 91	5 4	24 28	12 11	42 48	7.00	+ 1.60	2.00 1.35			15	16	13	w. n.	H. Scott. E. P. Turley.
yan mithfield	Roane	639	10	61.9	- 0.7	91	4	25	11	51	4.17	+ 0.65	1.55	0	10	13	9	9		Wm. E. Ryan.
mithfield pencer	Wetzel	919 710	9	59.0		91	4	24	12	39	3.48	+ 4.12 + 2.41 + 2.60 + 0.23 + 1.60 - 0.06 + 0.65 - 0.24 + 1.07 + 1.47	0.62			17	12	9	W.	E. P. Turley. Wm. E. Ryan. G. M. Whisler. A. M. McKown.
utton	Braxton	839	10	61.5		89	2	27 30	111		4.74 5.79	+ 1.47	1.60			8	12	120		Ben Gillespie.
erra Alta	Preston	3,207	13																	W. B. Elliott.
nion	Monroe		9	60.2	- 0.5	86	5	23	11	46	2.95	+ 0.30	0.82	0	5					Shelton Clark.
Tabatas Carala	Clay Webster	1.500	10	61.2		88	5	26	ii	45	5.33		1.30	0	10	ii	10	10	w.	Miss Blanche Pierson. D. H. Hamrick.
venster springs	*** ************	-,000	-																	
Vebster SpringsVellsburgVestonVheelingVhee	Lawis	1,500 1,225 824	19 25 29 12	60.0	- 0.9	85	5	26 31	101	33	3.33	- 0.15			10	13	9	9	w.	C. P. Waugh. Miss C. M. Davis. Miss M. B. Forsyth.

TABLE 1.—Climatological data for May, 1913. District No. 3—Continued.

			years.							heit.	Prec				da				direc-	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
Ohio.																				
mesville. shland angorville ellefontaine. literature. rilliant adiz ambridge. amp Dennison.	Ashland	1,079 1,380 1,276 1,100 700 1,245 803 570	9 13 26 34 20 9 21 20	60.5 57.9 57.8d 60.4 61.6	+ 0.4 + 0.9 - 2.6 - 1.7 - 0.7 - 1.0	92 87 86 83 84 ^d 89 91 87 90	5 3 2† 5 5 4† 30	25 27 30 27 24 ^d 28 30 24 29	11 12 10† 11 11† 11 10† 11	37 43d 45	2.13 2.64 3.16 2.81	- 1.54 - 2.08 - 1.38 - 0.72 - 1.60 - 1.08	0.88 1.23 0.69 0.86 0.65 1.00 0.71 0.46 0.81	0 0 0 0 0 0 0	0 7 12 9 8 7 8 10 11	14 6 10 11 16 12 10 2	10 5 15 13 5 8 20 14	7 20 6 7 10 11 1 5	sw. w. sw. sw. sw. nw.	F. W. Gibson. S. W. Brandt. S. M. Painter. Cory L. Lane. Miss Mary Elliot. Mrs. Mary Elliot. Harry B. McConnell. Samuel Mehaffey. Henry F. Pinkvoss. Ed. S. Slingluff.
anal Doveranton	Stark	1,089 1,010 630 628	20 30 18 10 42 25	6.06° 65.8	- 0.6 + 0.5 + 0.7 - 0.4	88 89° 91 90	6 2 30 2†	26 27 ^b 38 28	11 11 11 11	43 45° 33 45	2.53 3.78 2.30	- 0.28 - 0.88 - 1.22 - 1.23	0.98 0.77 0.91 0.71 0.74	0 0 0 0	9 7 8 8 11	12 21 8 17	7 0 11 5	12 10 12 9	nw. sw.	Carl H. Meyer. J. W. Shaw. Marion Mackey. U. S. Weather Bureau. Dr. H. R. Clarke.
aringtonblumbusbshoctonayton (1)ayton (2)	Monroe	600 918 770 899 790	10 35 4 2 32	60. 4 61. 7 62. 7 62. 6	$ \begin{array}{r} -2.0 \\ -0.6 \\ +0.1 \\ -0.3 \end{array} $	91 86 87 90	5 5 30 30	25 34 34 28	11 11 11 11	48 30 32 44	4.60 2.60 3.48 3.41 3.93	+ 0.78 - 1.12 - 0.47 + 0.11	1. 10 0. 89 0. 70 1. 17 1. 32	0 0 0 0	11 9 11 8 9	11 9 13	5 7 14 3	13 8 15	sw. nw.	Col. S. Tschappat. U. S. Weather Bureau. Mrs. Ada Jeffries. U. S. Weather Bureau. Mrs. Edith E. L. Boyer
elawareemos. emos. emison ennison rankfort. allipolis arretsville.	Belmont	1,325 846 745 580	16 25 3 21 1 29	61. 2 61. 4 61. 8	+ 0.1 0 - 1.2 - 0.7	88 90 93 91 85	2 4 5 5 5	27 30 26 28 24	11 11† 11† 11	50 46 44	3.55 2.57 2.23 5.41 3.00	-0.83 +0.10 -1.31 -0.81	1.42 0.78 0.63 0.59 0.97 0.70	0 0 0 0 0	10 13 10 7 11 12	15 17 17 15	9 6 9 5	7 8 5 11	w. s. n. s. n. n.	De Witt H. Leas. J. T. Dysart. Water Supply Co. O. A. Cory. Samuel F. Neal. S. M. Luther.
ranvilleratiotreen	Lickingdodo	960 1,000 500 1,135 1,060 601	31 24 20 20 27 1	60.5 59.8 62.8 56.5 62.7 62.9	- 0.1 - 1.0 - 1.4 - 1.4 + 2.2	87 85 90 85 87 88 89°	5 5 5 5 2 30 5	26 27 29 23 33 27 25	11 11 11† 11† 11 10	43 38 48	2.92 2.10 4.52 3.37	- 0.68 - 1.46 + 0.78 + 0.35 - 0.57	0.85 0.49 0.80 0.84 1.16 1.35 1.16	0 0 0 0 0	10 12 9 9 9 9	15 12 19 15 15 18	2 12 4 13 6 5	14 7 8 3 10 8	sw. w. w. sw. nw.	Dr. L. E. Davis. W. B. Longstreth, W. F. Kenyon, Jos. E. Bentley, Geo. A. Katzenberger, Earl W. Stout. H. W. Stiers.
ydenville	High and Lawrence Hardin Holmes Warren	1,063 575 1,015 1,087 640	34 30 21 20 1	65. 0 59. 8 61. 4	+ 1.4 - 0.4 + 1.0	93 85 85	5 2 2†	31 25 27	11 11 11†	44 36 41	5. 26 2. 28 3. 18 3. 79	+ 1.63 - 1.76 - 0.54	1. 60 0. 82 0. 67 1. 25	0 0 0 0	10 6 10 8 8	14 18 29 16 18	10 7 1 7 2 5	7 6 1 8 11	sw. sw. se. ne.	Carey H. Roush. James Bull. Frank B. Rarey. John A. Schonauer. Frank M. See.
ncaster Connellsville rietta irion Ifordton Iligan	Washington Marion Knox Perry	710 627 980 1,200 875	18 29 93 35 21 20	60.3 63.0 61.3 59.1	- 0.7 - 1.7 + 0.1 + 0.4 - 0.4	88 87 90 88 84	4† 5 2 2 3†	30 26 29 27 28	11 11 11 11 11†		5. 43 2. 41 2. 25	$\begin{array}{c} -2.08 \\ +0.52 \\ +1.56 \\ -1.27 \\ -1.55 \\ \end{array}$	0. 63 1. 40 1. 69 0. 75 1. 13	0 0 0 0	10 13 11 7	12 10 11 15	9 13 11	14 12 7 5	sw. s. n. sw. sw.	R. L. Renshaw. C. H. Morris. Prof. T. D. Biscoe. Dr. E. H. Raffensperge L. H. Burgess. V. C. Eveland. G. F. Copeland.
llport	Coshocton	850 1,100 1,053 757	20 13 20 18 30	58.8 58.0 59.8	- 1.6 - 2.2 - 1.6 - 1.2 - 0.2	86 86 86 93 84k	5 3 2 30	23 23 26 26 26 29	11† 11 11 11† 11†	50 48	2.88	+ 0.86 - 0.55 + 0.52 - 0.40 - 1.39	0.96 0.68 1.00 0.78	0 0 0 0	10 10 8 	8 15 22 18 10	17 9 4 12 12	6 7 5 1 9	sw. nw. n. sw. sw.	Ethel L. Gammertsfeld Clayton Holl. Sam C. Scott. Prof. H. C. Lord. E. H. Stephens.
itaskalaeblesquaquaattsburgrtsmouth.	Licking Adams Muskingum Miami Clark	1,015 645 1,018 847 1,130	21 2 18 3 20 82	61.3 61.4	- 1.3 - 1.4 - 0.2 + 0.4	87 88 89 85 93	5 5 3† 2 4†	26 24 30 29 32	11 11 11 11	40 50 35 36 44		-1.35 -1.10 $+0.38$ $+0.35$	0. 44 17 0. 42 1. 23 2. 00 1. 02	0 0 0 0 0	11 11 10 8 7 10	11 14 13 12 13 16	14 10 11 5 9	6 7 7 14 9 13	sw. nw. nw. se. sw.	J. N. Ridenour. Ora O. Smalley. L. C. Burckholter. Harry L. Roberts. F. E. Stewart. Dr. H. A. Schirrmann.
ospectmerset	Marion. Shelby. Perry. Clark. Noble. Meigs.	909 985 1,080 980 1,187 583	3 30 14 19 7 2 20	61.4 63.0 59.9 64.8	- 0.3 - 0.2	87	2† 2† 4† 4 4	30 33 25 26 30	11 10† 11 11 11	39	1.98 3.18 6.15 3.16 5.75			0 0 0 0 0 0	9 10 9 11 11 8		8 10 15 12 5 7	10 3 7 6 9	sw. s. sw. sw. w.	Neil J. Gast. Hamline B. Blake. Miss M. W. C. Sherida: W. A. Webster. H. R. McClintock.
oboso rbana arren averly aynesville ooster oungstown	Licking Champaign Trumbull Pike Warren Wayne. Mahoning	1,031 900 590 700 1,030 846	45 24 30 28 34 20	60.4 60.6 57.64 62.6 61.7 57.9	- 0.3 - 1.1 - 1.3 - 0.3 - 0.8	88 86 87 ⁶ 90 85 86	3† 2†	27 27 27 28 31 25	11† 11 11 11 11 11	44 44 42 46 33 46	2.40 3.37 2.50 4.60 3.03 3.04 2.28	- 0.13 + 0.78 - 0.97 - 0.92 - 1.16	0.59 1.14 1.18 1.59 0.85 1.30 0.40	0 0 0 0 0	7 10 7 .1 7 8 11	14 11 11 14 18 15	8 16 2 9 4 7	9 4 18 8 9 9	s. nw. nw. s. sw. nw. sw.	D. D. Thomas. H. A. Albyn. Prof. J. H. Williams. M. D. McCorkle. Dr. Peru Hutt. Charles Michener. Experiment Station. J. M. Dickey.
Indiana.	. Muskingum	700	26								3.08	- 0.47	0.72	0	11			****	nw.	S. G. Sprague.
ndersonticaoomington	Monroe	522 744 835	18 3 18 18	65. 2 61. 8	- 0.3 + 1.4 + 0.8	95 87	30 30 2	28d 34 28	11	42d 43 44	2.01 0.53 3.33	- 0.28 - 2.79	2. 62 0. 92 0. 28 1. 45	0 0 0 0	10 9 6 9	17 15 17	9 4	5 7 10	S. SW. SW.	W. H. Stanton. J. Frederic Connell. Earl E. Ramsey. George R. Rinehart.
tlerville mbridge City umbus mersville wfordsville lphi ansville rmersburg rmland rest Reserve	Jennings. Wayne Bartholomew. Fayette. Montgomery. Carroll. Vanderburg. Sullivan. Randolph. Clark.	941 632 769 780 668 386	28 22 30 31 3 28 37 15 31	60. 2 63. 7 63. 4 64. 8 62. 0 67. 5 64. 0 61. 2	+ 0.8 0 + 1.3 + 1.9 + 1.4 + 0.4 - 0.6 + 0.4	92 89 92 91 90 87 94 92 85 92	30 30 30 30 28† 2 30 30 5 30	31 26 30 30 31 31 42 34 32 31	11 11 11 11 11 11 11 11 11	46 40 31 41 36 44	1. 32 6. 43 0. 59 0. 69 2. 59 2. 22	- 2.04 - 0.53 - 2.46 - 1.04 + 1.80 - 2.84 - 4.00 - 1.71	0.58 2.08 0.30 1.59 0.50 4.00 0.17 0.33 1.05 1.14	0 0 0 0 0 0 0 0	9 8 8 5 4 8 6 4 7	20 15 17 13 14 13 12 5 14 18	4 0 4 11 9 8 10 19 2 7	7 16 10 7 8 10 9 7 15 6	s. sw. nw. sw.	C. F. Hole. Heze Barnett. John A. Perry. H. T. Swindler. P. H. Burns. L. A. Higginbotham. U. S. Weather Bureau Miss Carrie Yeager. Ralph E. Lyst. Ambrose Waltman.
ench Lick eenfieldeensburg ickory Hill untingburg untington.	Orange	506 905 954 462	10 17 5 20	64. 3 63. 2 66. 0 63. 2	- 0.3	95 88 90 96 87 87	30 30 30 30 2	31 34 36 28 30	12 11 13 11 10 12	36 36 56 37 35	1. 20 2. 10 0. 97 1. 63 4. 13	+ 0.13 - 2.45	0.39 1.30 0.37 0.70 1.45	0 0 0 0	6 3 8	14 1 21 12	11 18 5	6 12 5 7 12 5	sw.	U. S. Weather Bureau Frank Larrabee. C. C. Morrison, M. D. Benjamin W. Douglass H. Dufendach. Chas. McGrew. U. S. Weather Bureau

TABLE 1.—Climatological data for May, 1913. District No. 3—Continued.

		-	years	Tem	perature	, in	degre	es Fal	hrenhe	eit.	Prec	ipitation	, in in		days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy 0.01 inch or mo	Number of clear days.	of pa	N u m b e r of cloudy days.	9	Observers.
Indiana—Continued.																				Topodine)
udyville	Warren	450	6	62.5		88	28†	29	11	41	2.06		0.71	0	9	15	9	7	sw.	W. A. Hill.
Kokomo	Howard	840	21	61.4	- 0.8	84	2+	28	11	38	4. 19	+ 0.20	2.31	0	9	14	11	6 9	SW.	P. H. Robertson.
Lafayette Logansport	Tippecanoe	617 620	34	62.4	+1.4 + 0.2	86 89	28	34 31		36	2.62 4.78	-1.79 + 0.54	0.96	0	6 9	19 16	3 5	10	sw. e.	Wm. J. Jones, jr. Chas. Massena.
Madison	Jefferson	460	21	66.2	+ 0.7	95	30	36	12	44	2. 16	- 2.30	0.58	0	7	14	10	7	nw.	Miss F. Cooperider.
darengo	Crawford	363 814	31 27	63.6	-0.8 + 1.1	92 87	30	30 29		49 39	1.85	- 3.24	0.81	0	6 9	8	17	6 13	SW.	J. M. Johnson.
Marion	Rush	980	33	61.3		87	30	28		40	3. 12	- 0.14 - 1.31	1.30	0	7	11	8 9	11	S. SW.	James F. Hood. Elwood Kirkwood.
Ionticello	White	674	3							-:	4. 14		2.00	0	8	14	10	7	8.	J. E. Loughry.
foores Hill	Posey	980 410	12 27	63. 9 66. 6	+0.8 + 0.5	88 96	30	32 42		44 40	$\frac{2.35}{0.38}$	- 2.09 - 3.35	0.55	0	9	18 20	1 2	12 9	nw. sw.	W. S. Bigney. Guy B. Green.
Vashville	Brown			63. 6a		91a	30	30a	11	44a	1.37		0.66	0	4	11a	6a	13a	sw.	W. C. Goble.
PaoliPrinceton	Orange	611 481	16 31	63.9	-0.8 + 2.5	96 97	30	29 38		48 42	1.47 2.48	- 2.55 - 1.15	0.55	0	8 3	12 20	15 5	6	SW.	James A. Gillum. Albert Mills.
Richmond	Wayne	972	28	61.3	+ 0.6	86	2	29	11	43	2.67	- 1.34	1.33	0	8	10	17	4		Walter Vossler.
Rochester	Fulton	775 772	8 27	60.4	+ 3.2	83 91	2 28	33 34		33	5.40	- 2.95	1.63 0.38	0	10 5	13 10	14 14	7	sw.	G. P. Keith. C. A. Lee.
lome	Perry	370	10	67.4	+ 0.6	96	30+	35	12	48	2.15	- 1.53	0.64	0	9	18	7	6	sw.	Adam Anspach.
alamonia	Jay	950	8	60.26		85b	21	26b		37b	1.97		1.02	0	6	13	12	6	SW.	S. A. Armstrong.
alemcottsburg	Washington Scott	717 570	20 19	65.3	+ 0.2	94 93	30 30	32 34	12	45 42	1.78	- 1.97 - 1.97	0.90	0	6	9	15 12	6	s. sw.	Emmet S. Allen. Frank H. Park.
eymour	Jackson	610	26	66.0	-0.2 + 2.4	95	30	33	11†	45	1.60	- 2.57	0.68	0	5	13	13	5	SW.	J. Thomas Hays.
Shelbyville	Shelby Martin	768 523	9	64.1		90 93	30†	30 36		40 44	3.01		0.65 1.06	0	8	9 21	17	5	sw. ne.	Edgar G. Hedson. Rev. G. Halleck Rowe.
erre Haute	Vigo	498	23	65.0	+ 0.2	92	30	37	10	38	1.44	- 2.67	0.64	0	6	8	13	10	S.	U. S. Weather Bureau.
VeedersburgVevay	Fountain Switzerland	612 525	14 32	65.0	+ 2.5 + 0.1	91 93	28 30	30 36	11 11†	42 37	1. 43 3. 15	- 3.00 - 1.49	0.50	0	8	18	9 14	11	n. ne.	L. A. Culver, jr. Miss Frederica Boerner.
incennes	Knox	431	21	66.7	+ 0.8	97	30	40	11	39	1.70	- 1.82	0.75	0	5	20	0	11	se.	Garret V. List.
Vashington	Daviess	484 529	17	66.5		95 89	30 30	38 38		34 42	1.02 2.28	- 2.40	0.46 0.67	0	5 7	13	11	7 3	sw. nw.	Garret V. List. Charles C. Feagans. Clyde O. Laughner.
Vhitestown Vinona Lake	Kosciusko	865	6	59.9		86	21	29	10+	40	4.11		1.97	0	8	3 7	25 22 15	2 5	SW.	Rev. Albert A. Young.
Vorthington	Greene	526	31	65.8	+ 2.6	96	30	35	11	43	0.56	- 3.50	0.25	0	3	11	15	5	sw.	D. W. Solliday.
Illinois.													.,							
lbion	Edwards	531	22	66. 4	+ 0.4	94	30	39	11	37	$2.65 \\ 0.50$	- 1.46	0.94	0	8	19	6	6	SW.	B. F. Michels.
aseyharleston	Clark	645 720	10 28	65.6	+ 2.1	94	30	32	11	40	0.61	- 2.91 - 3.15	0.30	0	5	13	10 15	10	S. S.	William Chenoweth. Jacob B. Daisy.
anville	Vermilion	604	12	65.2	+ 0.4	92	28	34		43	0.54	- 2.81	0.30	0	5	19	5	7	sw.	J. J. Lemon.
quality airfield	Gallatin Wayne	421 450	15 20	65.4	-2.1 + 0.4	99 c 97	30	41° 36		36°	1.22 2.30	-2.07 -1.37	0.62	0	8	15	12	4	S. SW.	Dr. L. W. Gordon. George A. Tromly.
lora	Clay	495	27	65.9	+ 2.0	96	30	38	12	40	1.58	- 2.41	0.55	0	6	14	10	7	SW.	W. L. Hanna.
Folconda Ioopeston	PopeVermilion	500 715	35 11	68.6 63.6	+ 1.2 + 1.4	95 89	31 29†	41 30		42 39	1.73	- 2.29 - 1.86	0.73	0	3 9	13 19	10 7	5	SW.	Dr. D. Lawrence, S. F. Hoskinson,
IcLeansboro	Hamilton	462	30	66.0	+ 0.8	94	30	42		39	2.25	- 1.49	0.65	0	8	21	3	7	8.	Prof. W. C. Fairweather
fetropolis	Massac Effingham	346 599	3	64.4			20		ii.	44	0.85		0.50	0	3	22	3 18	6		Henry H. Humma. J. C. Spittler.
fontrose	Wabash	424	12	66.2	0.0	96 95	30	34 42	111	38	2.06	- 1.54	0.45	0	7	15	6	10	SW.	Mrs. H. M. Phillips.
ew Burnside	Johnson	613	18	65.2	- 1.9	94	31	40	7	35	1.64	- 2.12	0.65	0	7				S.	Thomas H. McCabe.
Newton Olney	Jasper	484 486	2 26	65.0	- 0.4	95	30	38	10	40	1.39	- 1.37	0.46	0	8	17 16	9	4	sw.	J. M. Hicks. John T. Ratcliff.
alestine	Crawford	500	31	66.6	+ 2.7	97a	29	37a	10	40a	0.79	- 2.77	0.34	0	7	18a	3a	90	S.	Duane Shaw.
'aris 'hilo	Edgar Champaign	600 700	20 29	63.6 63.6	+ 0.1 + 1.8	91 92	30 30	32 32		41 39	2.31 0.57	- 1.59 - 3.32	2. 12 0. 22	0	3 4	7 16	23	6	SW.	H. P. Twyman. H. A. Burr.
Rileyville	Saline	400	16					*****			1.61	- 1.63	0.50	0	6	15	5	11	S.	W. H. Thornberry.
hawneetown uscola	Gallatin Douglas	307 644	3 20						****		1.02 0.80	- 2.68	0.42 0.23	0	6	12	15	4	nw.	Mrs. Mary O. Spivey. Joseph O'Neal.
Jrbana	Champaign	751	11	62.8	+ 1.3	89	31	33	10†	37	0.56	- 3.45	0.30	0	5	5	18	8	S.	University of Illinois.
Kentucky.																				
lpha	Clinton		19	65.9	- 0.7	86	30	38		35	2.57	- 1.31	1.30	0	5	16	8	7	w.	W. W. Hicks.
Anchorage	Jefferson	700 637	12 16	64.4	+0.3 + 1.1	91 93	30	35 37		44	1.43 3.06	- 2.54 - 0.36	0.30	0	8	18 20	7 4	6	SW.	C. E. Barrett. T. S. Talbott.
Beattyville	Lee	650	9	64.6	+ 0.5	91	21	30	12	52	4.04	- 0.14	1.24	0	9	17	3 5	11	e.	G. W. Cann.
eaver Dam	Ohio	1,070	10 12	66.9	+0.9 + 1.0	97 91	31 5	35 38	12 11	50 44	0.87	- 3.00 - 0.73	0.30	0	5	19	5 6	7	sw.	W. T. Austin. C. F. Rumold.
landville	Ballard	445	32	67.4	+ 0.9	93	31	47	11	32	0.65	- 3.88	0.26	0	5	11	11	9	sw.	E. W. Horr.
owling Greenurnside	Warren Pulaski	500 773	24 22	67.8	+ 0.2	94	30†	38	12	47	$1.55 \\ 2.53$	- 2.53 - 1.54	0.55	0	6 7	20	5	6	8.	Mrs. L. G. Causey. K. W. Massey.
alboun	McLean	397	10	68.1	- 0.9	94	30	40	12	40	1.64	- 1.73	0. 91	0	10	7	20	4	8W.	W. A. Taylor.
atlettsburgarlington	Boyd Hopkins	544	24								5.04	+ 0.88	1.36	0	10	20				Mrs. Mertie M. Bruns.
dmonton	Metcalfe	370 600	23 22	69.0 66.0	+2.2 + 1.0	98	31 30	38 36	12	44	0.70 3.31	- 4.31 - 1.11	0.34	0	8	15	12	4	n.	Brick Southworth. Miss Lee Ray.
ubank	Pulaski	1,177	19	64.1	- 0.1	87	5	36		41	3.26	- 0.69	1.20	0	7 9	18	3	10	S.	Mrs. Katie Payne.
almouth	Pendleton Rowan	530 668	24	62.8		89	5	29	11+	46	3.41 4.84	- 0.17	0.71 1.60	0	8	14	7 4	10	w.	J. V. Oldham. Lee Craycraft.
rankfort	Franklin	560	22	66.3	+ 1.4	94	30	37	11+	39	3.36	- 0.46	1.40	0	7	16	4	11	е.	J. H. Roberts.
ranklin	Simpson	691 581	19 21		+1.4 + 1.5	92 93	30 30	41 33		41 47	1.08 2.93	- 2.97 - 0.99	0.50	0	8	18	25	13	sw. n.	J. E. Newman. Mrs. Bettie K. H. Alcorr
ign Bridge	Jessamine	762	10								5.15	+ 1.53	2.36	0	9					Miss Lulu Wood.
opkinsvillevington	Christian Breckenridge	524	17 15	68.4 66.7	+1.0 + 0.1	99 92	31 30	42 38		41 37	2.18	-2.19 -2.17	0.68	0	7 6	18 20	3	9 8	e. sw.	W. F. Randle. W. J. Piggott.
eitchfield	Grayson	635	17	66.6	+ 1.4	92	30	37	12	40	1.59	-2.79	0.61	0	6	15	11	5	sw.	John E. Stone.
exington	Fayette	989	25	64.9	+ 0.6	87	30	35	11	32	4.32	+ 0.80	1.97	0	9	10 20	12	9	sw.	U. S. Weather Bureau.
orettoouisa	Marion Lawrence	681	16					31	12 .		4.57	+ 0.79	1.80	0	10		3	8		Lucien S. Johnson.
ouisville (1)	Jefferson	525	41	67.2	+ 0.5	93	30	40		30	1.07	- 2.57	0.37	0	9	11	12	8	n.	U. S. Weather Bureau. W. I. Hunt.
Do. (2)	Mason	524	3 16	66.4	- 0.3	91 93	30 5	35 30		41 47	2.20 5.18	+ 1.39	0.84	0	7	14 21	11 2	6 8	nw. se.	Mrs. Mary D. Marsh.
Hddleshoro	Bell	1,128	18	65.2	-0.3 + 0.5	89	30	30 34	11†	44	5.26	+ 1.39 + 1.05	1.25	0	12	18	11	2		Mrs. Mary D. Marsh. B. H. Perkins.
wensboro	Montgomery Daviess	930 479	23 16	00.1	+1.2 + 0.3	89 94	30 30	35 43		42 37	5.85 0.68	+1.80	1.65 0.24	0	10	16	7 4	13	8. 80.	James O'Connell. Henry S. Berry.
aducah	McCracken	341	24	00.0	+ 0.3	0.1		40		01	1.92	- 3.21 - 2.05	0.96	0	4	14		10		S. A. Fowler. I. M. Williams. J. W. Crooke.
ikeville	Pike		5						1		3.35		0.90	0	8	100				I I M Williams

TABLE 1.—Climatological data for May, 1913. District No. 3—Continued.

			years	Temp	perature	, in	degre	es Fal	hreni	heit.	Prec	eipitation	, in in	ches.	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy 0.01 inch or mc	Number of clear days.	Number of part-	Number of cloudy days.	Prevailing wind tion.	Observers.
Tentucky-Continued.			17													-				
t. John. cott	Kenton	1,087 759	17 15 19 24 11 17 11	64.7 64.4 67.2 64.8 66.6	+ 0.6 + 0.5 - 0.1 + 2.2 - 0.2 + 0.5 - 0.3	93 89 90 94 92 90 88	30 30 31 30 30 31 51	36 35 30 37 33 34 33	12 11 12 11 12 12 12 11	42 39 50 41 44 47 39	2.48 2.64 2.74 1.82 3.84	- 1.12 - 1.63 - 1.11 - 1.27 - 1.70 - 0.03 + 0.20	0.91 0.76 1.13 0.75 0.65 0.96 1.04	0 0 0 0 0 0	8 9 10 6 10 10 8	22 10 19 22 15 21 19	1 15 7 1 6 2 5	8 6 5 8 10 8 7	s. sw. s. s. w.	Bethlehem Academy. E. B. Wilson. H. F. Ewing. C. R. Burnett. E. D. Bourne. Noble C. Jones. Miss Rose Carter.
Tennessee. shwoodenton	Polk	880	40 29	68.1 68.0	+ 0.5 + 1.0	93 92	31 4	42 40	1 1	45 43	4.96	- 0.61 + 0.75	1.25 1.93	0	7 7	6 12	11 14	14 5	8. W.	Mrs. Joseph W. Flemin George L. Williams,
irds Bridgeluff Cityyrdstown arthage	Greene	1,026 500	7 18 21 30 15	67.8	+ 1.8	92	5 31	42 44 42	11	41	3.61	+ 3.07 - 0.92 + 1.73	1.31 1.11 1.36 1.50	0 0 0	12 11 7 12	11 14 5 23 17	2 4 14 0 11	18 13 12 8 3	w. e. s. se.	David B. George. Walter C. Masengill. John Lacy. Earl C. Pickering.
edar Hili elinaharlestonhattanoogahatkaville	Bradley	709 808	10 29 34 53	69.1	+ 2.3 + 0.5 + 3.5	89 94	31 31 31	49 46	11 11	34	3.33 4.30	$ \begin{array}{r} -1.14 \\ -2.01 \\ -1.55 \\ +0.68 \\ -2.04 \end{array} $	1.70 1.07 2.00 2.22 0.97	0 0 0 0 0	7 8 13 7	22 13 8 15	1 5 14 12	8 13 9 4	n. sw.	J. Frank Ruffin. Charles M. Anderson. John T. Weeks. U. S. Weather Bureau. Prof. James A. Lyon.
linton rossville andridge	Anderson Cumberland Jefferson	800 1,895	29 1 8 18	65.1	+ 1.1	87	5	39	11	36	3.82 5.48 4.78	+ 0.13	1. 22 1. 44 1. 32 1. 70	0 0 0	9 11 9 8	18 13 18 17	6 14 4 10	7 4 9 4	w.	H. C. Slover. J. E. Converse. James E. Swann. J. Worth Lillard.
icksonoverunlap	Dickson Stewart Sequatchie Carter	800 500 726 1,575	20 17 4 22	66. 6 68. 2 68. 2	- 0.3 + 0.7	91 95 93	31 31 31	38 45 44 41	11 1	38 42 46	2.49 3.79 5.77 6.40	- 2.04 - 0.25 + 2.22	0.75 1.40 2.48 1.40	0 0 0	6 7 11 9	14 17 9 18	8 7 19 2	9 7 3 11	8. 8. e.	Nathan R. Sugg. Asa M. Tippit. S. Bradford Boyd. Charles Boyd.
rasmuslorenceranklinalls Hillohenwald	Rutherford	560 648	16 31 25 10 30	68.0	+ 1.0 + 0.7 + 0.9	87 91 92	31 31 31	38 45 45	11 1	42 36 37	2.79 3.89 3.76	+ 0.81 - 1.23 - 0.15 - 0.61	1.14 0.85 1.65 1.30	0 0 0	9 9 6 10	11 18 14 19	16 5 6 2	8 11 10	86. 8.	Mrs. Sarah E. Ashley. Erastus P. Bell. Young M. Rizer. Edward F. Wright.
on City	Lawrence	600	18 3 20 29	67.1 66.0 68.6	0.0 + 1.4 + 0.4	92 94 92 97	30† 31 5 31	40 34 42	1 11 1	50 51 46	3.97 5.24 5.09	- 2.48 - 0.44 + 0.90 - 0.78	0.55 1.52 1.72 1.07 1.17	0 0 0	10 9 9 9	12 5 20 14	13 22 7 10	6 4 7	nw. nw. w.	Mrs. Mary Lutzelman. Capt. H. Paul Seavy. Calvin C. Maddox. Ward Crosby. Miss Sallie B. Mathews.
ingston noxvilleebanonewisburg	Knox	977 522 727	29 42 4 19	67. 8 68. 4	+ 1.3	89 89	30 30† 31	44 41 42	11 11 11 1	35 41 44	5. 62 4. 86 2. 91	+ 1.68 + 1.16 + 0.32	1.70 2.35 0.82 1.77	0 0 0	10 10 10 9	16 10 9 11	0 12 6 16	15 9 16 4	8. sw. n. 8.	Henry Crumbliss. U. S. Weather Bureau. H. Logan Fields. Dr. Robert D. Crutcher
ibertyoudonynnville	DeKalbGiles	672 816 770	16 22 26 8	66.7	+ 0.1	92	31	45	1	36	4.48 3.56 5.17 4.69	- 0.66 + 0.74	1. 23 1. 80 1. 23 2. 48	0 0 0	8 5 11 6	17 19 14 23	5 15 0	14 7 2 8	s. ne. s.	Bratten Evans. Robert W. Clark. Col. James H. Burrow. Miss Alice L. Headrick.
cMinnville	Blount	1,050 2,486 654	32 20 16 42 23	60.8	+ 1.3 - 0.3 0.0 + 0.1	91 85 92 85	30† 4† 31 30	26 48 38	1 11 11 12	48 33 35	6.18	- 0.18 + 1.96 - 0.84 + 1.59	2.30 0.96 1.60	0 0 0	13 9 10	13 11 12	13 13 7	5 7 12	8. 8W.	Horace H. Stiles. Mrs. Sam T. Broyles. Edward E. Barry. U. S. Weather Bureau. Dr. Charles T. Burnett.
ew River. almetto. erryville. Inewood ogersville ugby. uyannah	Hawkins Morgan	1, 215 770 387 1, 150 1, 410	5 23 17 7 29 24 30	67.6 68.2 67.4 65.6 64.2	- 0.3 + 0.9 - 0.4 + 0.4	93 97 97 90 90	31 31 31	44 45 40 39 33 45	1 12 1 11† 12	37 36 48 43 47	4.54 5.56 3.96 2.57 7.20 4.73	+ 1.54 - 0.04 + 3.50 + 0.41 - 1.34	0.94 1.28 1.50 1.25 1.50 1.01	0 0 0 0 0	8 11 7 6 11 9	21 11 16 15 19 10 14	3 16 3 12 5 9	7 4 12 4 7 12 6	8. 8. n. 8. W. SW.	Burl W. Buttram. Mrs. Ross Woods. Oliver C. Kirksey. Miss Carrie Cash. Fred Beal. Samuel G. Wilson. W. H. Carrington.
vierville wanee parta pringville	Sevier	2,000 920 377	7 19 7 11	66.5 66.9 67.8	+ 1.1	90 90 97	30 31	36 42 42	12 1† 1	41 43 44	3.61 1.86	- 3.21	1.96 0.92 0.86	0 0	12 8 8	5 11 14	10 6 8	16 14 9	sw. w. s.	Herbert O. Eckel. University of the South Ernest H. Hull. Hudnall A. Boden.
azewell	Claiborne	1,350 1,075 909 753 400 550	16 26 9 28 17 11	67.3 69.7	+ 1.1 + 1.1 + 1.9	95 90 94 96	30 31 31 31	29 44 41 46	1 1 1 1	46 41 44 41	4.66 3.29 3.96 2.88 2.55	+ 2.88 + 1.00 + 0.04 - 2.48 - 2.14	2. 10 0. 90 1. 40 1. 23 0. 83 0. 90	0 0 0 0	8 10 8 10 5 7	17 10 15 8 18 18	3 16 7 15 5 6	11 5 9 8 8 7	8. 8. 8. W.	J. Caloway Carr. Reuben T. Moore. John K. Roberts. Harry C. Boyd. William R. Wilson. James G. Elizer.
Alabama.	Lincoln	850	17	67.1	- 1.7	90	31	41	24	29	3.34	- 0.75	1.45	0	9	12	16	3	sw.	William P. Watson.
ridgeportoreaturorenceuntersvilleadison	Jackson	660 573 5C3 580 573	13 31 29 3 19	69.6	- 0.4 + 0.7 + 1.7	95 94 93	31 31 31	45 43 51	1 1 24	41 41 32	4.91 2.63	- 0.69 - 0.99 + 0.15	2. 10 1. 06 1. 44 2. 45 0. 91	0 0 0 0	10 12 12 12 9 4	12	14	5	se.	R. L. Moore. Ernest A. Carriger. Cyrus A. Ashcraft. L. S. Long. Edward Humphrey.
vertonottsboroseumbia	Jackson	360 652 488	16 30 31	67.2 68.0 69.8	- 1.4 - 0.1 + 0.8	95 91 97	31 31 31	41 42 46	1 1	46 41 40	7.86	- 0.94 + 3.73 + 0.50	2.04 2.70 1.31	0	8 10 11	10	5	16	gw.	James F. Long. H. A. Caldwell. Samuel Moore.
Georgia. amond North Curolina.	Gilmer	2,020	21	66.4	+ 1.3	89	3†	43	1	44	5.67	+ 0.35	2. 12	0	10	10	15	6		R. A. Kimzey.
tapasshevilleheville	Mitchell Cherokee Buncombe Avery	2,629 1,800 2,250 3,750 2,000	3 34 5	62.7 65.2 63.2 56.2	+ 0.6	90 90 86 80	14† 5 30 3	26 34 37 23	11 12 12 11	50 46 39 45	6.83	+ 1.34	2.00 2.08 2.86 1.91	0 0 0 0	3 11 12 12	17 12 13 17	6 18 11 2	8 1 7 12	n. sw. nw. w.	Altapass Inn. J. D. Link. U. S. Weather Bureau. T. L. Lowe. D. K. Collins
ryson City illowhee endersonville ighlands	Jackson	2,000 2,100 2,167 3,850	25 3 16 23	63.0	+ 0.8	87	30	34 36	1	47	5.17	+ 1.19	1.65 3.04 4.50	0	8 11 10	17 11	4	10	nw.	D. K. Collins, Frank H. Brown, Dr. L. B. Morse, T. G. Harbison,

TABLE 1.—Climatological data for May, 1913. District No. 3—Continued.

		34.	years.	Tem	perature	e, in	degre	es Fal	hrenl	heit.	Pre	cipitation	ı, in in	ches.	days,		Sky		direc	
Stations.	Counties.	Elevation, feet.	Length of record, 3	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy of 0.01 inch or mor	Number of clear	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind d	Observers,
North Carolina—Contd. Hot Springs. Jefferson. Marshall. Murphy. Rock House. Waynesville. Virginia.	Madison	1, 326 2, 900 1, 646 1, 614 3, 100 2, 792	15 6 11 37 21 19	65. 2 60. 6 64. 4 62. 7 62. 0	0 0	89 86 88 81 85	4 5 5† 30† 30	35 28 36 43 32	11 11 11† 12 12	45	5.66 6.59 5.06 5.29 4.73 4.92	+ 1.86 + 1.41 - 0.99 + 0.92	2,09 2,00 2,08 2,00 3,14 1,90	0 0 0 0 0	10 11 13 11 12 10	15 6 14 13 6	5 4 8 14 15	11 21 9 4 10	w. w. w.	P. A. Garner. Prof. E. J. Johnson. M. L. Church. Miss Victoria Mingus. Barry C. Hawkins. Mrs. Chas. E. Quinlan.
Blacksburg Burkes Garden Elk Knob Vranhoe Max Meadows Mendota Mountain Lake Radford Speers Ferry Wytheville	Montgomery Tazewell Lee Wythe do Washington Giles Montgomery Scott Wythe	2, 170 3, 250 3, 243 2, 028 2, 028 1, 350 4, 348 1, 773 1, 221 2, 293	22 18 10 9 17 4 3 4 17 20	61.4 60.8 54.9	+ 0.1 - 0.5 + 1.1 - 1.1 - 0.5	87 80 85 84 88 80	4† 4 5 5 4† 4†	27 24 35 34 26 28	12 12 11 12 12 12		5. 12 4.57 6. 01 5. 56 4. 41 5. 68 6. 78 6. 86 7. 41 5. 87	+ 1.14 - 0.31 + 2.32 + 0.47 	2.32 1.97 2.01 2.20 2.53 0.92 2.67 1.80 1.82 1.96	0 0 0 0 0 0 0 0	10 6 12 10 6 13 10 7 13 13	20 11 13 16 15 20	6 4 9 12 12 12	5 15 9 3 4	w. w. nw. w. sw.	Agricultural Exp. Station C. H. Greever. Henry Nicoll. Miss Alice G. Jewett. James M. Graham. Frank M. Barker. H. E. Dorland. Arthur Roberts. Miss L. E. Venable. U. S. Weather Bureau.

*, b, *, etc., indicate respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
| Estimated by observer.
T. Precipitation is less than 0.01 inch rain or melted snow.

Table 2.—Daily precipitation for May, 1913. District No. 3, Ohio Valley.

Stations. New York,	Watershed.																																
New York		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
AVEW A UTE.																																	
llegany	Allegany						T.								0.15	0.05			0.14			0. 16	. 12	0. 24	0. 14	0.08		0. 44	1. 01				2. 5
llegany	do									T						. 06	. 05		. 14				.12	. 02	. 20	T.	0.02	. 45	. 96				2.1
						****				*																							
Pennsylvania.																																	
leppo	Ohio	0. 24														. 45	. 55	0.14	. 05	0.05			. 37	. 49	. 94		. 07	1.30	. 24		0.71		5.
aldwin	Allegheny										·				T.	. 55	. 10	. 05		0.05		.01	. 28	. 41	. 01		T.	. 88	64		.12	0.55	2.
eaver Dam	Ohio										T.			T.	. 01	. 44	. 25					T.	. 14	. 19	. 04		. 03	. 84	. 73		.02	. 35	3.
rookville	Allegheny								0.02					. 01	.17	. 63	. 11					. 05	. 20	. 63	. 01			1. 45	. 35		.11	. 01	3.
alifornia	Monongahela							0.08							28	. 30	. 17	.02				. 34 1. 21	. 841	1.031	. 02	T.	. 06	. 99	. 07		1. 42	. 02	7.
heat Haven	Allegheny							0.00			. 10				. 10	. 35	. 15						00	AR	91			75	25		. 10		2.
laysville	Ohio						T.	.11		T.					.12	. 45	. 10	T.	10			. 10	. 31	1.00		T	T. .36 .21	1.18	. 26	T.	14	. 60	4.
oroonolis II	Ohio		1	1				T		1	1	1	1	. 01	1.07	. 32	. 34	1.	T.			. 55	. 13	. 31	. 15		. 36	. 72	. 64		. 03	. 31	3.
avis Island Dam	do							T.			T.			T.	. 06	. 28	. 21					. 05	. 15	. 32	. 15	T.	. 21	. 69	. 79		. 01	. 39	3.
dinhono	do	1	1	3			1		1	113		3	1	. 01	. 07	. 21	. 10		.33			. 13	. 32	T.		. 06	T.	1.11	. 05		T.		2.
dinborollwood City	Ohio										T.				T.	. 37	. 56					T.	. 19	. 20	. 05	T.		. 63	. 84		. 02	. 28	3.
ranklin	Allegheny							02		. 11	.06	3			. 08	. 29	. 47		. 05			.02	. 18	. 36	. 02	Т.	.07	. 62	1.18		Т.	. 05	4
reeport	Monongahela You'ogh'ny		****		****	****	****	.07							. 24	. 26	. 52	.14	. 02			. 50	. 28	1.10	. 60			. 60	. 62		. 10	1.00	5.
reensburg	You'ogh'ny.						. 05	. 02		T.					. 09	. 89	. 09	. 03				. 09	. 26	. 86	. 01	. 01	. 01	. 84	. 25		. 32		3.
reenville	Ohio									- 16					.03	1.30	. 34	T.			****	. 04	. 42	. 20			. 04	1.13	. 10	. 01	. 13		3.
Frove City	Allegheny						T.	. 02			T.			T.	. 05	. 33	. 34					. 05	. 16	. 31	. 20	T.	.17	. 48	. 45		T.	. 44	3.
ndiana	Monongahela Allegheny						. 12	.05							. 05	. 60	. 53		. 02			08	26	. 87	. 01	. 05	.01	. 79	. 19		. 38	. 04	5. 3.
rwinohnstown	Allegheny		1			T.	. 03	T.		T.				. 03	. 09	. 59	. 19	. 18				. 18	. 45	. 99				1. 33	. 08		. 17	. 07	4.
AUCK INU. THE ASSESSE	Monongahela Allegheny						. 06								T.	. 35	. 60	. 21	T.		0.00	.18	1.40	. 82	. 33		.14	. 51	. 63		. 07	. 43	4.
																		. 10			0. 28	. 01	. 48	. 64	. 28		. 05	. 55	. 31		. 01	. 20	3.
Mosgrove	Ohio									. 01	. 01	1			. 01	. 48	. 22	0.4									. 33		. 35	·	. 01	. 06	2.
ittsburgh	Ohio						. 01			T.				T.	. 06	. 57	. 07					. 07	. 26	. 37	. 01	. 20	. 33	. 80	. 50	1.04	49		3.
cidgway	Allegneny					****				. 0				06	11	50	25	il.	1 05			1.5	. 20	.06	. 00	. 04		. 82	. 08		. 01		2.
altsburg []	do							. 19						T.	. 03	. 14	. 74		T.			. 03	. 23	. 43	. 46		.02	. 55	. 28	T.	. 01	. 24	3.
aegerstownaltsburg haron omerset	Ohio						T.	T.		. 03	T.			. 01	. 09	. 05	. 90					. 64	. 30	. 90		T.	. 45	1. 02	.10)	45	. 20	5.
pringdale	Allegheny														. 05	. 37	. 71					.07	40	35	26		. 28	. 75	1.68		1	. 38	5.
niontown	Allegheny Monongahela						. 11								. 39	. 18	. 23	. 15			. 22		. 56	. 61			15	1. 70	. 41		1.00		5.
Varren Vest Newton	Allegheny You'ogh'ny.						T	19		. 10					.06	. 75	. 62	. 10	. 05			. 10	. 45	. 77	. 66			. 42	1. 32	T.	. 05	. 35	5.
Maryland,	Tou ogn ny		1				1		1						1																		
-	You'ogh'ny						. 07								. 89	. 26	. 10	. 34					. 99	1.05	. 07		. 27	1. 19	. 05	1.03	3		6.
Deer Park Grantsville Dakland	do				T.	. 02	.11							. 45	. 55	. 41	. 18	. 18				T.	1. 10	1.17	. 06		. 12	1. 40	. 60)	. 1. 60		7.
West Virginia.												1																					
Bancroft []	G. Kanawha						. 02								. 05	. 23		. 40				. 13	. 43	1.81	. 31			. 35	. 18	3	08	5	. 3.
	G. Kanawha						1.20	.80)																								
Bens RunBluefield	Ohio G. Kanawha Monongahela														- 42	.08	. 00	. 45	5			1.00	. 92	.02				1.30			0	5	1.
Brandonville	Monongahela							.80)							1.00	. 19					1.00	1.25	. 66	. 33	3		1. 27	. 48	5 .00	6	1.85	5 8. 8.
Buckhannon	do							T				3			. 90	. 20	1.30	.80	03			.22	. 46	1. 30	. 15	.03	7 .12	. 80	114	4	. 16	3	4.
Brandonville Buckhannon Cairo Central Station	Middle Is. C.						T.	T.		T.					. 19	T.	. 51	.18	5		T.	. 30	. 62	. 69	T.	T.	. 26	. 93	. 18	8 T.	. 94	5	. 4.
Charleston Cheat Bridge	G. Kanawha										. 0	2				. 10	.31	. 4	T.			.03	. 37	1. 52	. 36	3		1 65	. 18	7 3	5 T	12	3.
heat Bridge	Monongahelsdo						. 17	. 22					-		1.00	. 10	.30	. 10	. 31			.20	.86	. 90	.78	3	. 06	1.10	. 45	8		1.68	8
ortland	L. Kanawha Sand Creek Monongabela										T.				. 40	T.	. 45	. 3	. 02			. 10	. 25	1.05	. 32	2		. 4	. 3	7	10	3.3	5 4
Cuba	Sand Creek							70			T.			T.	.27	. 24	. 34	. 21	12		19	. 61	. 50	95	8	T.	1 06	1 16	21	1 1.	20	01.30	0 8
Davis	BIE BRIEV.															0000																	
Elizabeth	L. Kanawha														33			. 20	0			. 18	. 30	. 87	. 22							2	
Elkhorn																		1 36	T	5	T.	. 03	. 49	1.02	. 01	11 . 13	3 .96	8 . 76	1 . 19	9 T.	53	2	. 5
Fairmont	do							. 1.							. 31	. 10	. 30	. 24	. 01				. 00	1 00			0	4	71	9	. 0	3 .46	
Glenville	L. Kanawha	l													- 56	90	. 11	0 .04					1.74	1.00	0.0			1 3	8 .6	2	7	2 .0	4 7
GraftonGreen Sulphur Spgs.	Monongahela G. Kanawha							. 10	0						. 1		.0	4	Т.	. 02	2	. 15	. 01	1. 25	.0	3		. 1.2	3 .00	2 T.		3	3 3
Hinton	do							. 1	4							T.	. 5	2 . 3	8 .08	3			.70	. 48	1.74	4		1.0	1.2	0		0	6 4
Holcomb	G. Kanawhi							. 2	8						T.	T.	*	2 1. 79	0			.15	1.34	2.20	1.00	8		. 5	2 .3	0	8		. 6
Huntington	G. Kanawh						8	1							-	0	9 0	4 91	-		1 15	0.00	FER	6.5	1 1	2	1	1 5	3	8	3	3	. 4
logan	Guyandotte						T.										.0	4 .8	2			*	1 80	1.00	*	*	*	0 0	3 2	8 2.3	0 .1	3	. 3
Lost Creek	Monongahel						T.	. 19	9	T.					. 6	.13	7 . 2	0 1 1	6 T	1		T. 1. 66	*	1. 41	.54	0		. 9	3	2		T.	. 5
Madison	G. Kanawha Monongahel						T								3	1 .5	1 .2	2 .0	6			. 45	. 78	.84	1		. 1	1 1.6	3 .1	4	6	5	. 5
																. 20		1.0	0		. 40	76	*	1.30	*		*	8		7		6	
Aarlinton Morgantown Moundsville New Cumberland	Monongahel						.03	1 .4	4						11	3 .0	4 T	T	T			. 10	T.	.96	T	.0	5	. 8	9		6	0	. 3
New Cumberland	do														20	9	1.1	5				Т.	T.	. 30		. T.	7	0 .7	0		4	0	. 3
New Martinsville Nuttallburg	do			-											20	. 2	3 . 1	7			9	1.16	. 90	. 4			· 4			7 T	0	0	
Nuttallburg	G. Kanawha	1					. 30	J							T.	. 3	1.16	9.9	3		. 2	1. 10						1.2					
Osceola	Monongahel Ohio						T.	T.		0	1			1	7 .3	3 . 4	3	2 .0	6		. 0	1 . 19	. 90	. 47	7	0	1 .8	1 .8	2	. 1	0.0	7	- 4
Parsons	Monongahel	1	-												4	.60	3	5 . 5	8			04	2.04	1 00	1.8	5	. *	616	9 2.0	6 T	. 6	3 5	6 8
Philippi Pickens	do						. 10	0 .0	4		.0	10		T.	4 .4	.1.	1 .1	1 6	0 . 0		000	. 04	. 61	1.9	7		8	7 .9	3		1.3	5	. 7
Pickens Point Pleasant Powellton Princeton	Ohio														. 0.	2 .10	6 .7	0 1. 1	0			30	.90	. 86	3	6		9	6 . 7	6	0	6 .0	8 6
Powellton	G. Kanawh						. 0.	2 T.							0	. 1.	0 .2	91.2	2			T.	. 83	2.00	0.0	1	1 8	0 .5	0	. 0	1 9	5	1 3
rinceton	do						. 2	T	0							11	0 .2	0 .3	8			. 32	. 3!	1.3	5 .3	0	1.0	4	0 T		0	9	. 3
Dahartahara at	Monongahel						1	. 0	2		0	4			2	1 .9	4 .2	2 .3	2 .0	4		10	1.00	1.80	0 .7	6		. 1.2	0 .6	60	3	6 .6	14 8
Princeton Robertsburg Rowlesburg R yan St. Marys																													0 -	19			

Table 2.—Daily precipitation for May, 1913. District No. 3—Continued.

					9										D	ay o	f mo	nth.															-
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
st Virginia—Con.																									_			-		-	172.4		
ithfield	Fishing Crk.										T.					. 07						. 55	. 40	. 22	T. 40		. 26	. 07				. 62	3.
ncer	L. Kanawha G. Kanawha							T			****	****		****	.48	*	.72	1.09					. 39	. 52	. 46			1.20			T.	. 18	5.
ra Alta	Monongahela																							.74	.82			. 47					2.
on	G. Kanawha							T.									. 40	. 47															
ley Fork oster Springs	do														T.	. 10		. 28					. 22 1	. 30	. 05	T.	T.	$1.25 \\ .80$			T.	1.10	3.
llsburg	Ohio Monongahela						12								. 17	. 64	. 13						. 10										
eeling	Ohio														. 12			.01			T.	.17	. 12	.73	. 15		T.	. 95			. 31	.31	
liamson	Big Sandy							.10								T.	.04	. 42					. 20	. 80				.03	. 10				Ī
Ohio.						-								T.	59	.11	. 28					. 29	. 88	.42		. 02	.18	. 63		.09	T.		3
esville	Ohio Muskingum.					T	T.			T.				T.	T.	. 43	T.					. 21	. 12	T.	T.	T.	. 54						2 2
land	do						. 0	2		01					.10						T.	.02	.09	T.	. 03	. 22	. 69			.08			2
efontaine	Great Miami							Т.			T.				. 69	.19						T.	. 40				. 60	. 65		.12	. 05		2
densburgliant	Muskingum. Ohio						. T.								T.	. 73					T.	.23	.20	.30		T. T.	. 40	1.00		T.	.30		3
iz	do						. T.								.23	. 40					1.	.06	. 22	. 08		.01	. 46	.27			.00		1
nbridgenp Dennison	Muskingum. Little Miami						T.								. 81	. 03		. 05				. 70	. 32	T.		. 01	.20	. 64	.01	. 02			3
al Dover	Muskingum.										1			T.	.12	.57	. 68					.04	.38	.08				.98			T.	. 25	3
ton	Scioto						0	2		-	T.			. 02	. 29	. 28											. 77	. 50		. 65			2
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cinnati	Ohio							T	-		T.			T.	. 60						T.	. 38	.32	. 15			. 03	.34	. 06			. 03	
cleville	Scioto						T.			. T.				T.	.20	.10	. 05		3		T. T.	. 30	1.10	. 60		T. T.	. 45	. 78		. 03	1.00		4
um hus	Scioto						T.			. T.				36	3 . 42	. 49					Т.	. 23	. 16		.02	Т.		1.2	. 70				
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en Hill						1				T				T.	.13	2 .8	4 .1.	5				.08	. 65	. 01	T.	T.	. 78	5 .2	3 T.	T.	.5	4	
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ng's Mills	. Little Miam	i									. T			T	1.2		1.0		1			.58				T.	2			.0			
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ounsgtown	Mahoning.							05			04					02 .:	38 .:	30			T	- 13	.2	5 .1	4 7	T		14	67 .3	12		17 .0	17
nesville		a									3			1		39	30 .1	04			1	. 4.	1.	2 .1	1	1		1		-		1	1
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nderson	W.F., Whi Wabash W.F., Whi Wabash E.F., Whi	te					T.				04	r				55 .	05			92		0	1 T			1	13	10 .	18		03	T	1
ttica	W. F. Whi	te	**						r.			03						08 .	03 7			0	5 .0	6			12 T	35 1	45			T	1
	Wabash									7	r		5			80 .	05 .	50	07	23		8 .2	9 .1	0	1			17 .	48		20		
utlerville	E. F., Whi	te													. 2.	08	03	40				1	5 .2	4				06 .	55			03	
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Table 2.—Daily precipitation for May, 1913. District No. 3—Continued.

Steel Perform Chies	Stations.	Watershed.	-	,		,	+	-			1	1					Day	of m	onth	•								4					
Section Color Co			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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Section Sect	proof Reserve	Ohio						T									17	1 14	11				00	15				07	40				
Section Sect	ench Lick !	E. F., White						T.									T.	. 29	T.	.20		. 39	. 04	. 08				.07	.20		T.	1111	****
March Marc	reenfield																		1.				. 10	. 10			T.	. 17	.22	T.			
Section Websit	eenspurgickory Hill																														****	****	
Section Sect	intingburg	Wabash																	. 60		. 33	.70											
Section Sect	intington	W E White				CEN.					. 03				T.	. 85	T.		. 28				. 85	. 10				1. 45	. 55	. 02	· · · ·		
Section Sect	fersonville	Obio				1.		T.			T.				.00	. 09	. 23	. 12	. 12	.08	****	. 01	.50	.07	****		. 04	. 12	.08	****	T.	****	09
yethol	lyville	Wabash		****		.01	. 03				. 03			****		. 59			.71				. 11										
T	komo	do					T				T.				T.	2.31	T.	. 03	. 27	TD.		· m	. 35	.03			. 12						
T	ansport	Wahash		2		1			1		1.					1.78	. 20	. 15	. 29	. 15		1.	. 10	1.02			. 17	.34	.93	.14		****	****
at Vernor:		Ohio						T.			70						. 24	. 40	. 08				. 41	. 18				.27	. 58			****	
at Vernors 1.		Wabash	****	****			****	1.			T.		****	****	****	1.06	. 41	. 10		. 25			96	96	****	****	.20	.22				****	****
at Vernors 1.	12V	E. F., White						T.			T.					1.30	.71		.08				. 15	. 03			T.	. 45	. 40	T.	T.		
at Vernor:	rticeilo	Wabash									T.					2.00	97	.31	30	.37		200	. 35	. 11			. 11	.21	. 68		m		
Number 100 1	nt Vernon	do							T.		.01					- 12	. 34	T.	T.			1.	. (10)	T.	T.		****	. 04	. 12		1.		
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Number 100 1		Wahash				1		T.				1 00					T.	. 38	.01											****	****	****	****
Number 100 1	mond	Whitewater.						T.			T.					1.33	.08		T.			. 13	. 10	T.			. 02	.74	. 25		. 02		****
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Edition	hyville										T.				. 65		. 39	. 07	. 12				. 40	. 22				. 00	. 55				
Edition	e Haute	Wahash				T		Tr.	T.								96	T.	1.06 T	. 06	. 02	01	.21	. 03	****	****	01	50	. 35		T	T	• • • •
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	itestown	do					T.		T.		T.	T.				. 65		. 11		. 08			. 06	. 64	****			.07	. 67			T.	
Minois	ona Lake	Wabash						T.				· m			. 11	. 95	. 26	T.	. 28				. 34		****	T.		1.97	.17	T.	. 03		
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Selection																																	
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Self											1.	. 04							1.			. 26	.02				. 02	. 27					
Note							. 01				. 02				T.	T.			.30			T.	T.				.10	.11			T.		
Section Combet		Wahash					T.	T.									90	. 21	16	T.		. 62	T.		****	****	T.	. 28		****	****		.11
Onda	a	do						. 13									T	. 55	. 10	. 07		.10	.36					. 44	****				. 03
Camporo Onio	onda	Ohio										T.						. 31				. 69		T.				. 73					
Burnstel Ohio	eansboro II	Ohio					. 03	. 02	.08		. 02				. 01	. 39			. 27	.45			. 15	. 29			. 25	. 44	T.		T.		.11
Burnstel Ohio	opolis	do						****					T.					. 25		T.				.10					. 50				
Burnside Ohio	nt Cormel III	Wabash				T.					T.	. 03						T.	. 07	24		. 03	T.			****		. 45					T.
Ton. Wabash OS	Burnside	Ohio						.14											. 55	.12			. 12	.06	.05			. (14	65				. 14
Stiffe	ton	Wabash						08									02	46	. 08				. 45	T.				.30					T.
Solution Color C	y t	do				TP.			.15		T.	m.					10	. 35	. 58	. 31			. 15	. 23			T.	****	. 49				. 11
Note	S	do										7						1		T.			T.	2.12	****	****	.12	T.	.07			****	
Camberland Go	0	do					. 03												.12			T.	. 20				T.	. 22					
Rentucky.		Ohio						. 09										. 46		T.		. 25	.30	T.		****		.50	10				10
Rentucky.	cola	Wabash				. 03	. 20				. 05								. 21	. 12		T.	.10		.00		T.	1.	.10				
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Orage Ohio T	na	Cumberland						.30									T.	. 50	T.			T.	.35	1.30	.12			T.	T.				
tyville	horage	Ohio					T.											. 22		. 21		. 05	.30	. 20				.08	. 28				
Advile Mississippi 03		Kentucky																.12	. 35	. 15	T.		. 65	. 65	. 87				. 22	. 05			
Advile Mississippi 03	ver Dam	Green							T.									T.	. 30				. 07	. 08	.12	. 28		T	. 32	. 12			
Side Cumberland	a	Kentucky						T.									. 28	. 15	.30		.10	. 30	. 21	. 87	. 53	. 20	****	. 23	. 23	T.			
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Street Sign Sign	aside	Cumberland							T.								T.	. 15	. 56				.13	. 35	. 91	. 05			.38	T.			
Ington Green Green T. T. T. T. T. S. T. S. S	oun	Green						T.								. 08	.16	. 08	. 06	, 06		T.	.17	. 41	. 01			.12	. 49			T.	
Onton Combet Co	ington II							T	T							.16	. 14	T 44	. 44				.32 T	. 58	1.36	. 28	****		1.12	. 20			
Ank Cumberland	onton	do						. 58									T.	. 22	. 51				. 95	. 73	.15			. 03	.14				T.
Nest	ank	Cumberland																. 40	. 70					. 20	1.20	. 03			. 63	.10			
Kfort Kentucky T	ners	do														. 40	. 08	. 33	. 40	1.		****	. 13	1.60	. 48			36	67				
Klin Green T 23 50 35 T	kfort	Kentucky							T.							T.	T.	. 03	1.40	. 06			. 54	. 81	. 46				. 06	T.		T.	
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Bridge 11	Kentucky.							.01									. 40	. 90	.16	.02		. 23	2.36	. 50		****	****					****
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$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	ngton	Ohio																T.	. 39	. 31			. 17	. 31				. 06	. 20				m
tito. Sait 1.80 50 64 72 10 26 68 82 T T 15 T 15 T 15 T 15 T 15 T 16 17 76 17 18 18 18 18 18 18 18	ington	Kentucky						T				T				T	. 24	. 74	.03	.00		1.02	. 11					. 20	.08		T		1.
swille (2)	tto	Salt					T.										1. 80	. 04	. 72	. 10		. 26	. 68	. 82	T.			T.	.15	T.			
sviiie (2)	isa []	Big Sandy										T.					.16	. 57	. 76				. 23	.18	1.10	. 24			. 40	. 05			
on do	sville (2)	do						1.								I.	. 15	. 16	.36	. 07		. 04	. 35					.17				****	T.
	on	do																					1										

TABLE 2.—Daily precipitation for May, 1913. District No. 3—Continued.

rentucky—Contd. unt Sterling rensboro ducah teville bhmond John John tt. shy City shy ville ylors ville liiamsburg liiamsburg liiamsburg dis Bridge ff City dristown thage ar Hill nn ar rleston rleston	Lieking Ohio do Big Sandy. Kentucky. Sait. Lieking. Kentucky. Sait. do. Cumberland Lieking Tennessee						5	6	7 T.	8		-			2 13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
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unt Sterling	Ohiododoldodododosig SandyKentuckySaitLickingKentuckySaitdoCumberland Licking								T.				1															1			1		
rensboro ducah teville bmond tohn tit. elby City slby Vity ylorsville lliamstown Tennessee.	Ohiododoldododododo								T.			-	1				-				_							1		1		1	
ceville	Salt																T.	T.	1.55	T.	Т.		. 80	. 72	1.65	. 05		06	. 55	.11		T.	. 09 T.
phmond	Salt								T			. T						T.	. 16				. 96		. 10				1 . 70)	Land Land		200
Tennessee.	Licking Kentucky Saltdo Cumberland Licking																T.	.08	1.83	T	T		T. 50	64					. 80	.15		. 25	. 15 T.
Tennessee.								T			· ·						.17	.14	. 25	. 42	т.		. 91	. 40	. 46			T.	.15	11			
Tennessee.																T.	. 00	.14	.15	.00		. 02	.76	1 13	18			. 20	.39		T.		
Tennessee.							05												. 75	.14			.35	. 45	. 65				. 40			1	****
Tennessee.							.00		.30						-		25	. 96		.16		. 03	.32	. 65		200		. 07	. 08				T.
	Tennessee	1			• • • • • • •											. 08		1.04	. 23	T.			. 47	. 67	.40	. 20			. 55	.14			
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ls Bridge									.30		T.					T.	T.	.70	. 05			1.25	. 05		.30								
f City II	do			: ::					. 39	.2	T.			T.				T.	1.36 1.04	30		. 15	21	. 58	1.93	1 21		T.	.13				T.
dity	do									.43	3 .59	9						.32	.61	.36			.38	T. 1	1.07	. 851			11.11	.10		1	21
hage	do			-		::	***	.31	. 60								56	.29	.39	. 05		. 40	.26		1.36				. 60				
r Hill	do							T.				T				T.	T.	.32	.30	1.70		T.	. 20	. 55				.01	. 40	.01			
rleston II	Tennessee.			1				Т.	T	T		T			T			. 15 T.	. 42	T.			. 05	.37	1.07	. 05			. 30				
tanoogaksville	do								.11	.01						.18		1.10	.02	. 10	.01	. 02	.06	1.16	. 00	.12		.01	.12				. 45
ton II	Tennessee.						• • • •	T.	15			T				.18 T.	T.	.53	.18	. 28		T.	. 04	. 97					.07				T.
ton sville	do							.12	. 45		T.					. 03	.20	. 45	.78					.10	. 22	. 22		.03	1.30	T.			
dridge H	do								.16	. 20									.70	.40				. 12	. 32	1.00			. 68			.20	
son	Cumberland							T. T.	1.		T.					. 21 T.		. 41	.69			T.	.06	. 14 1	.70			.02	. 26				
er	do							T.				T	T.			T.	T.	.92	. 11	.27		. 19	.16	1.40				.13	.72				
lapbethton	do	1		111	** **	**	***	. 25	.20	. 04						. 32							T.	. 45 2	. 48				. 25				. 50
bethton	Cumberland							. 61	. 46							.16	T.	.47	. 69	.29 T.	.07	T.	.04	. 67	. 14	1.22	T.	.06	1.08	. 25			. 30
klin	do								.07		40					T.	.07	. 35	. 20				T.	. 85	. 45			T.	. 20				.34
Hill	do								.13		. 43	T				T.	1.30	1.00	. 28			. 25	T. 36	.38	26	T		. 21	34				
enwald	Tennessee							. 07								.04		. 52	.12	.03		.11	.36	. 55	.18			.03					
Cityson Cityson City	do	1111						. 03	. 80	. 04						. 25	33	1.52	76	. 20	.02	. 40	.09	.97	. 45 .			T.	T.				.21
son City	do								.71									.09	1.02	.20				.17	. 81	. 99				.03			.21
ston	do							T.		36						.10	.04	.75	. 05	.02		. 83	. 09	. 17				15				-	
sonville	do							. 05	.01						T.		.18	.81	. 33				T 11	.05 1	.70	.11		.18	1.63	.03		T	15
non	Cumberland							T.	. 08			70				.27	.06		.31	.02 .			.31	.50	.42	T.		. 14	. 82				т.
rty [Cumberland								. 57	.03		1.		****		.11	. 22	. 69	. 24 .		Т.	. 61	T. 1	15 1	. 49 .	05		T.	55				T.
lon	Tennessee								T.	. 28									.50						. 80	. 28			.70	T.			
hee	do						1	. 13		52	T					.31	. 45	.87	. 04 .	anal.	. 23	. 251	. 05 1	.23	. 55 .	40			.06	Т.			
innville	Cumberland								. 10							. 21	. 60	.06	.75	.00			.28	.52	.92	.40		.32	. 40				
ville	do							16										.15	.47														
ville	Cumberland							. 05								T.	. 13	. 87	. 05	T. -		. 03	. 10	. 66				. 53	Z. 00	.04	.21		24
River	Tennessee								.30	. 12								. 20	92	T				. 42 1	. 04 1	. 60 .			. 95	. 09			.38
etto	Tennessee							***	.60		.01	***			****	.26	.33	. 65	.94 .			100	- 11	.71	27	1	. 1	T	.81				1.28
ville	do										: :::					. 24	.31	. 63															1
ville	do							***	1.14	. 05	1.25	T						31 1	06	T	T	.34	.36	191	50	00		.10		.07			
y	Cumberland								. 90							.09	T.	.25	.01 .	. 00			.27	.30	.90 .	. 00 .		.06	.95	.07	****		. 13
nnahrville	do	****		***				***	15	61			T.			.18	1.	. 30	. 28	. 50	T.		. 50	. 47	.06 .			T.	. 26				
rvillenee.	do															.08	.00	. 26	. 02 .					. 45 1				. UA	L. La				1. 30
	Cumberland Tennessee							T.					T.			T.	T.	. 03	. 65 .		. 05	. 40	T.	.76	. 92 .			. 05	. 75				
well II	do	1		1												.36	T.	73 2	. 07	.03 .			. 10 T.					.12		T.			17
homaing	Cumberland								. 59							. 27	. 38	. 22	.75 .			.57	. 04	. 51	. 90 .			T.	T.				. 43
								.06	.00	****		****	T.			.18	. 22	70	. 01	T		37	. 05	.01 1	. 40	. 05 .		T.	.50 T.				
cisvine	do Cumberland															T.	. 83	. 29	T.	. 68		.06	.23	.83	. 10					con .			
	Tennessee							.15			T.						. 39	.71	.00 .	. 17		. 06	.12	. 90 .	65			. 20					
Alabama.																									1	1							
eport	Tennessee							. 01	. 05	. 15								. 47	.00 .				.37	. 12 2	. 10	. 02			. 02				
nce	do								. 10			. 15				T.	. 04	. 18	. 06	. 03	. 01	.03	. 32	. 08	. 86 .				. 08				
CISVIIIB	do		1	1					. 18	. 12		. 04			Lo			T. 1	. 10	T.	T.	12	. 08	. 82 2	48 -	.04		T.					
son	do											.01								7.3	- 1			. 91 .									. 62
rtonsboro	do					. 3	r	10	. 62	T.							-203	7.4	. 93 . 46 .			col	04	. 71 1	20			T.					
	do								1.05							. 01	. 02	. 04	.57 .		. 30	35	. 10	20 1	31 .			1.					
Georgia.																																	
	Tennessee								. 01	. 50				****			T.	. 02	. 48 .		49 .	27		45 2	12 .			T.	.31				. 02
rth Carolina.	70																				1												
ews	do			1		1			T.	T.							T.	. 91	T		T	00		2	. 00				1. 33				T.
									. 05	. 02					T.		. 11	. 79	. 41	. 01 '	т.		.02	49 2	20		***	.01	. 00	.01		T	. 31
										. 60							1.32		. 85	15			. 10	. 20 1.	91	. 10 .			1. 05 .		. 25	. 10	. 12
on City	do		T.					T.	.03	.03	.03	. 15	****			`ii			87	OB	- 1			21 3	98 1	. 65 .			. 73	. 12			. 87
ersonvilleandsprings	do																	. 20	. 10					213.				1.	. 00				. 17

Table 2.—Daily precipitation for May, 1913. District No. 3—Continued.

	***]	Day	of mo	nth.														
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Torth Carolina—Con.																																
flerson	G. Kanawha						. 02	T.	. 90		T.					.34	. 15	. 60			. 36	. 04	. 86	2.00	. 04			1. 28		T.	T	
arshall	Tennessee								. 15							. 50	. 18	. 22	. 16		. 13		. 12	2.08	. 04		. 10	1. 10	. 10			. 18
urphy []	do	****						. 02								T.	. 14	. 83			. 17			2.00	. 81			. 41	. 07			. 45
ock House	Savannah Tennessee			T.			T.	.07	T.	T.	T.					.05	. 60	. 06	. 11	. 22		. 11	. 54	1.00	1. 90		.04	. 70	.11			. 05
Virginia.	,																															
lacksburg	Kanawha							. 09									. 10	. 46			. 09	. 30	. 39	2.32	. 15			1. 12			. 10	
irkes Garden	Tennessee							T.									T.	. 58					T.	1.97	. 06		T.	1.67			. 19	. 10
k Knobanhoe	Kanawha							. 15	. 15	. 02					. 16	. 50							. 44	2.01	1 0*	· · · · ·	. 06	. 84	. 01			****
x Meadows	do			T		****	T	T.								- ap	. 25						. 30	2. 20	1. 23	1.	T	1. 23	. 05		T	T.
ndota	Tennessee							.56								. 24			. 10		. 10	. 18	. 22	. 68	. 90			. 90				. 15
ountain Lake	Kanawha							. 20								. 07		. 47				. 48	. 75	2.67	. 18		T.	1.73	. 05			. 18
dford	do																						. 80	1.80	1.76			. 62	. 88			. 40
eers Ferry	Tennessee							. 03								1. 48			. 05						. 82			. 87	. 10		. 16	

* Precipitation included in that of the next measurement.

‡ Separate dates of falls not recorded

| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3 .- Maximum and minimum temperatures at selected stations for May, 1913. District No. 3, Ohio Valley.

	1	Pennsy	vania				-			•	We	est Vir	ginia.											Oh	io.			
Date.	Green	nville.	Pittsl	ourgh.	Charl	eston.	Elkh	orn.	Elk	ins.	Glen	ville.	Hun		Morg		Park		Wh	eel-	Can	ton.	Cincin	nati.	Colur	nbus.	Day	ton.
	Max.	Min.																										
1 2 3 4 5	81 85 87 88 90	30 37 41 47 46	77 84 85 88 88	44 52 55 57 58	80 86 87 86 90	42 48 52 54 55	77 81 81 87 87	39 45 49 49 50	76 83 84 86 86	32 38 42 44 44	85 87 90 92 93	36 40 46 48 50	82 89 87 89 91	41 45 51 50 54	77 84 86 88 87	42 49 53 55 55	79 86 88 89 90	43 48 53 54 57	85 91 91 91 90	39 41 44 45 52	80 86 87 87 88	37 43 46 51 51	79 87 85 83 87	49 54 59 59 65	78 85 85 84 86	50 56 60 61 63	78 85 82 81 84	48 53 60 64 66
6 7 8 9	78 63 70 58 50	53 40 31 43 29	78 64 71 61 48	56 50 46 40 33	87 72 78 73 73	57 52 44 50 44	81 79 68 75 60	54 55 45 46 46	79 64 73 69 51	55 41 32 43 34	86 75 83 80 65	56 55 36 41 36	80 73 80 78 62	55 58 44 46 44	83 73 75 69 60	60 51 35 44 31	80 67 75 69 54	61 53 45 47 40	82 75 79 65 60	50 54 39 43 34	75 64 72 60 51	59 43 36 44 30	71 68 74 70 57	60 54 47 53 42	71 64 70 61 52	58 46 41 44 35	69 65 72 61 54	54 47 42 48 38
11 2 13 14 15	54 65 72 71 76	26 25 46 49 48	54 65 74 68 72	33 37 55 54 56	59 73 82 82 84	34 35 46 56 58	60 73 76 73 72	32 34 54 56 58	55 68 74 71 79	25 25 37 53 53	66 76 82 78 79	28 29 42 45 44	65 77 84 69 85	33 34 40 56 61	56 71 76 74 79	28 30 49 50 57	59 72 79 78 80	33 37 50 54 62	65 74 82 69 77	29 31 37 52 52	57 68 77 67 80	26 28 47 49 51	61 73 82 86 84	38 44 57 60 65	60 69 78 70 80	34 39 54 53 60	60 69 80 79 81	34 41 54 59 62
.6 17 18 19	71 78 73 63 71	55 45 56 34 34	75 75 72 64 71	56 56 48 48	82 77 73 77 82	62 60 57 50 49	73 70 72 74 80	58 58 52 56 61	70 68 73 68 80	55 54 54 43 41	80 76 82 76 85	46 47 51 46 44	77 78 79 72 83	62 60 57 51 50	72 72 74 72 77	61 58 55 45 43	76 77 77 70 79	60 59 60 51 51	81 80 81 76 79	61 57 57 44 46	75 79 74 67 71	58 49 59 40 43	78 75 75 70 79	60 60 59 53 56	75 77 74 67 74	57 50 46 50	73 74 71 68 77	60 58 52 48 52
11 12 13 14 15	83 73 60 61 69	47 55 51 48 39	80 72 56 60 67	55 52 51 48	85 83 68 64 65	61 64 52 52 47	79 70 60 58 67	61 55 49 48 48	80 73 57 58 67	58 56 50 49 41	88 78 64 68 78	60 63 53 42 45	86 69 57 69 75	54 64 52 51 46	75 61 64	59 49 49 45	83 71 58 63 68	64 55 51 51 45	86 74 57 68 69	50 58 52 51 46	82 72 62 65 73	52 62 49 49 42	82 68 63 71 73	64 54 52 48 54	81 66 59 66 69	61 51 50 47 50	78 66 62 68 68	63 53 50 45 53
26 27 28 29 30	70 63 71 70 60 75	43 52 47 40 47 37	71 68 70 70 68 76	50 52 51 50 55 49	69 72 74 75 85 80	54 60 54 55 60 65	73 72 66 72 80 80	49 51 51 53 55 56	74 70 67 67 77 76	51 54 51 47 56 50	76 78 80 79 78 80	47 46 51 48 46 53	74 64 77 75 87 84	56 60 52 55 61 65	74 71 65 72 74 77	61 54 58 49 58 45	73 70 74 66 84 79	51 57 55 56 61 58	71 71 80 77 70 83	50 54 54 50 52 47	64 63 74 74 73 77	40 50 50 47 54 42	68 66 79 79 91 81	62 52 55 67 67 63	62 66 75 67 85 78	51 51 49 57 55 52	65 63 77 74 87 81	56 50 50 60 61 58
ins .	70.9	42.6	70.7	50.6	77.5	52.5	73.4	50.7	71.7	45. 4	79.5	45.8	77.3	51.9	74.0			52.3	76.7	47.5	72.4	46.0	75.6	55.9	72.1	51.3	72.6	52.9
		O	hio.							Indi	na.						11/4					W. W.	Kent	ucky.				
Date.	Mai	rion.	Wave	erly. §§		tler- lle.		ans- lle.		lian- olis.	Kok	omo.	Ro	ek- lle.	Wort		Philo	o, Ill.	Bea	tty- e.§§	Boy	rling en.§§		ling- n.§§		ens- g.§§		ing-
	Max.	Min.																										
1 2 3 4 5	82 88 86 84 86	43 46 56 56 59	83 89 88 89 90	39 43 49 49 53	83 86 84 82 86	48 53 56 58 57	83 83 81 80 81	54 58 63 66 64	80 84 82 80 84	53 59 63 62 64	81 84 83 81 84	45 50 55 58 60	84 86 85 83 83	49 55 58 63 62	82 86 84 81 85	43 50 55 59 60	82 84 84 80 80	48 49 56 63 61	87 91 91 90 90	36 39 48 44 50	92 91 89 88 90	43 45 50 50 59	90 89 86 86 86	55 49 55 63 59	87 87 87 86 89	40 47 50 50 55	78 84 84 83 86	53 59 62 62 65
6 7 8 9	86 68 73 65 57	60 42 34 44 30	79 71 76 75 58	56 55 39 41 41	69 70 78 73 60	50 43 44 48 48 42	69 71 75 78 63	57 48 51 56 48	68 67 72 62 57	48 44 44 42 38	74 66 74 66 56	50 36 40 47 32	74 70 77 66 62	53 39 45 52 35	76 72 78 71 64	58 40 43 49 38	70 68 77 65 61	51 35 40 43 34	83 74 83 84 64	53 54 41 44 49	81 79 87 87 74	55 51 48 48 54	71 77 84 86 71	61 51 46 53 57	79 75 81 85 67	54 54 45 46 54	72 68 73 75 57	57 52 45 54 42
1 2 3 4 5	72 80 68	27 32 53 53 56	64 73 82 79 80	28 32 41 50 57	59 75 83 89 86	31 34 53 62 63	66 75 82 87 83	42 44 58 66 66	61 72 80 85 82	38 42 57 58 63	64 72 80 76 82	28 34 73 55 60	66 76 83 90 87	34 41 52 64 61	67 -76 83 89 85	35 39 50 64 63	63 76 83 90 85	32 37 51 59 63	67 82 87 87 82	33 30 41 52 53	74 83 89 92 91	41 38 44 52 59	73 82 88 93 85	43 38 50 65 65	69 80 85 91 86	38 33 40 61 61	59 73 81 86 82	35 41 55 64 61
6 7 8 9	74 72	56 47 52 40 47	77 77 77 72 79	57 58 57 42 48	78 77 75 72 80	58 56 57 45 54	73 79 73 77 87	63 61 58 54 57	72 76 70 70 79	54 57 52 51 55	70 75 67 71 76	49 49 50 46 52	74 81 74 75 85	49 50 53 49 56	76 78 76 76 85	55 58 57 50 57	68 80 73 75 86	44 52 48 50 55	80 78 82 79 89	58 57 54 48 46	80 77 82 84 92	58 59 56 55 54	78 81 81 87 92	63 62 60 52 56	80 81 82 79 88	62 61 54 53 52	76 73 71 70 81	58 58 58 50 54
1 2 3 4 5	62 70	60 53 47 47 49	82 70 61 69 71	54 63 53 47 45	80 71 64 71 75	60 55 48 42 52	76 63 61 73 76	63 56 52 50 58	78 62 56 71 68	62 52 49 44 55	79 66 56 69 65	61 50 46 40 51	82 65 62 77 75	62 52 47 42 54	80 73 63 74 80	64 52 49 43 51	82 57 60 77 72	56 52 49 39 55	85 76 58 70 80	51 64 50 46 44	83 62 62 74 82	54 60 50 49 47	80 59 61 76 85	65 56 52 52 47	85 68 63 70 80	62 63 52 47 45	81 67 60 66 74	63 53 51 46 54
6 7 8 9 0	78 74 81	45 52 44 51 58 46	70 68 76 76 86 83	48 56 49 54 55 54	70 67 83 84 92 87	57 49 43 58 62 61	73 73 86 87 94 91	57 54 56 67 72 69	67 69 86 83 87 84	55 51 51 63 66 62	62 67 81 77 80 83	54 50 46 55 65 55	68 71 91 89 90	59 50 47 59 65 64	68 73 89 89 96 90	61 53 46 59 66 66	66 73 90 91 92 91	51 50 48 56 69 65	74 58 80 90 91 88	51 55 47 52 57 60	74 74 86 92 94	57 53 47 58 61 66	76 74 87 91 94 98	57 55 47 60 71 69	72 66 82 90 93 90	54 54 44 57 65 63	69 62 75 85 87 81	50 51 50 63 68 63
- 1	74.7	47. 9	76. 5	48. 8	77.1	51.6	77.4	57.7	74.0	53. 4	73. 1	49. 7	78. 1			52. 7		50. 4	80. 6	48. 6	83. 2		82. 2			52. 1		55. 0

TABLE 3.—Maximum and minimum temperatures at selected stations for May, 1913. District No. 3—Continued.

																											43	
			Kent	ucky.									Tenne	ssee.												Virg	inia.	
Date.	Louis	ville.	Mays	ville.§§	Will	iams-	Cha		John		Knox	cville.	Nash	ville.	Palm	etto.	Spa	rta.	Way		Ala		Ashe N.	C.	Blac		Wyt	
	Max.	Min.	Max.	Mín.	Max.	Min.	Max.	Mîn.	Max.	Min.	Max.	Min.	Max.	Min.														
1 2 3 4 5	82 86 84 82 85	53 58 65 63 66	84 91 89 89 93	40 44 50 49 51	86 88 90 85 89	39 45 49 46 45	83 84 85 87 87	49 54 54 56 59	84 87 90 91 92	40 45 43 49 41	82 85 86 85 88	47 53 55 54 59	84 85 83 84 85	51 56 58 60 63	80 84 86 86 85	44 50 51 56 58	85 85 87 88 86	42 48 49 49 53	85 85 84 85 86	41 47 50 54 56	86 86 85 87 87	45 48 55 58 60	79 81 83 84 85	40 49 50 48 52	78 84 86 87 87	32 38 40 44 42	79 82 85 86 86	3 4 4 4 4 4
6 7 8 9	70 71 76 78 61	57 48 49 55 46	78 76 80 79 62	54 54 41 44 44	83 74 81 83 86	53 56 56 51 52	85 78 78 76 76 75	61 59 57 60 57	83 78 79 82 67	55 55 49 50 59	82 74 76 79 70	57 56 56 51	80 74 78 82 72	60 57 56 55 56	81 75 81 83 74	58 54 51 53 53	81 76 82 84 75	54 54 50 52 49	81 73 82 85 73	56 55 47 57 57	83 76 81 85 78	59 54 54 57 55	80 73 60 74 66	52 54 52 47 48	83 65 65 76 64	44 55 42 37 48	81 67 62 74 62	4 5 4 4 4
1 2 3 4 5	64 75 82 89 83	40 45 58 68 62	67 78 86 88 87	30 33 41 55 59	71 80 85 82 82	48 34 41 57 55	72 72 81 -83 82	50 53 57 65 61	72 78 79 87 83	34 37 50 54 57	69 73 80 84 84	44 45 58 62 60	71 78 84 85 83	48 51 56 64 64	75 77 82 84 80	49 55 60 63 62	75 78 84 85 85	42 42 53 57 57	70 80 84 86 84	51 45 50 64 60	74 76 85 86 85	56 53 56 61 65	66 71 76 83 76	42 37 48 52 53	63 70 77 79 79	30 27 36 47 45	62 69 75 76 77	3 2 4 5 5
6 7 8 9	76 76 74 75 81	59 59 59 54 55	67 81 77 77 84	60 58 57 45 49	79 78 81 81 86	60 60 56 60 53	80 79 84 84 81	62 62 60 62 65	82 75 80 87 86	57 60 55 56 55	79 76 82 83 82	61 62 58 63 62	74 78 81 81 86	61 61 60 59 62	78 78 82 84 85	63 60 57 59 63	81 78 82 83 85	63 62 57 58 61	75 79 84 85 86	63 64 54 55 60	78 79 84 85 87	63 62 56 62 68	77 72 76 80 76	53 58 57 56 54	77 72 75 77 75	53 58 50 52 48	73 70 75 78 77	
1 2 3 4 5	82 67 61 70 77	64 55 52 50 56	86 78 65 71 78	56 59 52 47 45	81 76 56 78 78	69 65 51 48 46	83 74 65 71 75	62 60 55 53 53	85 76 63 64 79	56 57 62 52 42	85 76 61 66 75	65 60 54 53 48	78 70 63 69 77	64 54 54 53 50	81 72 61 68 76	64 58 52 47 45	83 75 60 68 79	62 60 52 49 45	80 69 62 68 77	64 57 52 51 43	85 70 62 69 77	63 65 53 50 48	78 77 64 60 71	60 63 51 48 41	72 76 67 62 70	57 52 50 44 40	77 74 66 57 70	. 4
26 27 28 29 30	67 68 83 89 93 87	61 54 55 68 72 67	77 61 80 81 92 85	57 57 47 50 58 59	78 60 77 88 90 89	50 58 47 57 62 62	77 69 80 87 88 89	54 59 54 65 64 68	77 67 74 84 84 84	50 56 55 55 64 65	76 65 77 88 89 88	54 58 56 61 66 64	74 70 80 88 90 92	58 56 55 66 72 70	74 70 82 86 89 93	55 57 49 49 61 65	75 66 78 87 90 89	52 54 50 54 56 67	77 71 82 87 89 94	53 57 45 52 57 65	79 72 80 89 90 95	56 60 53 65 59 67	73 68 68 81 86 80	49 51 51 60 59 60	75 66 67 75 82 78	46 56 53 54 52 62	75 65 67 75 79 77	4 5 5 5 5 5
Mns	77.2	57.2	79.6	49.8	80.7	52.6	79.8	58.4	80.0	52.1	78.9	56.8	79.3	58.4	79.7	55.5	80.5	53.3	80.3	54.3	81.3	57.6	75.0	51.5	74.5	46.3	73.5	48.

a, b, s, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

CLIMATOLOGICAL DATA FOR MAY, 1913.

DISTRICT NO. 4, THE LAKE REGION.

Prof. HENRY J. Cox, District Editor.

GENERAL SUMMARY.

The weather in the Lake region during the month of May, 1913, was lacking in features of unusual meteorological interest. The mean temperature during the month was below the normal in practically all sections, the greatest departure being 4.1° at Northfield, Vt., at which station temperatures below the seasonal average occurred on each day of the month after the 6th. The greatest positive departures occurred over the eastern portion of the Lower Michigan Peninsula, but did not exceed 2° at any station.

The total precipitation was also deficient in amount, except in western sections, and that portion of the district bordering on western Lake Erie. In Wisconsin the greatest departures were recorded, and an excess of 4 inches was reported at several stations in the lower Fox River Valley.

The percentage of sunshine was considerably above the normal in New York State, but close to the average, or a little below, in other sections. Severe and widespread storms were infrequent, although the usual number of thunderstorms occurred in all portions of the district.

The following table summarizes the chief features of meteorological interest in the various portions of the district:

4		nal.			nal.	n in 24		1		ber o	of	etion.
Portions of States.	Mean temperature.	Departure from normal.	Mean daily range.	Mean precipitation.	Departure from normal	Greatest precipitation hours.	Mean snowfall.	With 0.01 inch or more.	Clear.	Partly cloudy.	Cloudy.	Prevailing wind direction.
Minnesota Wisconsin Illinois Indiana Upper Michigan Lower Michigan Ohio Pennsylvania New York Vermont	47. 4 52. 3 57. 6 59. 1 48. 2 54. 9 59. 0 55. 8 54. 0 51. 6	-2.0 -0.7 +1.1 -0.1 -0.4 -0.3 -0.7 -1.5 -1.4 -2.9	18.1 16.6 15.1 21.0 17.9 19.2 16.5 20.7 17.7 20.4	4.37 5.85 4.38 4.35 2.56 2.87 3.97 2.68 2.81 3.19	+0.43 +2.49 +1.01 +0.40 -0.64 -0.49 +0.53 -0.75 -0.42 +0.14	1.70 3.03 1.83 2.75 1.12 2.60 3.57 0.91 2.50 1.15	T. T. 0 0 0.2 T. 0 T. T.	11 12 11 10 9 8 12 14 9	7 12 11 12 12 12 14 9 13	15 9 9 9 7 10 9 16 10 9	9 10 11 10 12 9 8 6 8 13	ne. ne. sw nw sw sw sw nw

TEMPERATURE.

The only pronounced warm weather of the month was that which occurred during the first six days, and this was felt chiefly in central and eastern sections. In New York State maximum temperatures of over 90° were reported at a few stations during this period, and in some instances these readings were equal to the highest May records for their respective localities, although the hot

weather occurred not later than the 5th in any section. In other portions of the district the maximum temperatures for the month were well over 80°, and were generally recorded during the first week. In Minnesota and upper Michigan high temperatures were again experienced on the 31st.

From the 7th until the close of the month daily readings below the normal prevailed with persistent regularity in all sections. In northern New York and Vermont the deficiency in temperature was quite marked, and minimums as low as 18° were reported in the former State on the 12th and 15th at Old Forge and Gabriels, respectively. In Ohio the 11th was one of the coldest May days on record, a minimum of 24° being observed at Medina. At two stations the absolute minimum for the month was 1° colder than any previous May record and at four stations the low record was equaled.

stations the low record was equaled.

Frosts.—Heavy to killing frosts occurred quite generally over the district on the 10th and 11th in connection with the cold period in Ohio referred to above, and killing frosts were again recorded over the Upper Michigan Peninsula on the 25th and 26th. The greatest damage was reported from portions of Michigan and Ohio. In the fruit region of the Lower Michigan Peninsula the frost of May 10 caused considerable harm to strawberries and peaches, but later fruit was not seriously injured. In Ohio also the cold weather of the 10th and 11th did a great amount of damage to all tender vegetation, especially to peach buds. As a result of these frosts, the fruit crop in that State is estimated as being only 52 per cent of the average. In some localities of New York light frost was reported as late as the 26th, but in the fruit sections killing frost did not occur later than the 11th, at which time no serious injury occurred.

PRECIPITATION.

During the first half of the month the precipitation was light in all sections, most stations in the eastern portion of the district reporting less than 0.10 inch during this period. In the Lake Champlain Valley of New York there was no rain of consequence from about April 12 to May 15, and in Vermont agricultural operations were somewhat retarded by the droughty conditions. Rains were frequent, however, over the entire district during the latter half of the month. In the western portion of Ohio the precipitation was unusually heavy and greatly interfered with farm work, corn planting especially being badly delayed. At Toledo 3.57 inches fell on the 26th–27th, and heavy rains were also recorded along the western shore of Lake Michigan on the 20th and the 26th, and in the western Lake Superior region on the 29th. At Duluth, Minn.,

the rainfall on this date was 1.16 inches and at Superior, Wis., 3.03 inches. Much damage was done by water in both cities, basements being flooded and railroad

tracks washed away.

Snow.—The snowfall during the month was confined to the extreme northern portions of the district, and in only one instance did the total amount exceed 1 inch, 6 inches being reported from the Upper Peninsula Experiment Station at Chatham, Mich.

TOE

No ice in any quantity was observed at the various lake stations during the month except at Duluth, Minn., concerning which the official at that station reports as follows:

At the beginning of the month and until the 17th, there was pack ice in the lake, which at times extended nearly to Two Harbors, Minn. On the 3d, 15 steamers were caught in the ice outside the harbor, and vessel operations were also impeded on the 6th, 9th, and 15th. On the last-mentioned date much of the ice outside was forced by high northeast winds into the harbor, stopping the ferries and small craft. After the 15th the ice gradually diminished in quantity, and on the 31st there was none of consequence remaining.

MISCELLANEOUS.

Sleet.—Wires, iron structures, and sidewalks at Duluth, Minn., were covered with a coating of sleet during the night of the 14th-15th.

Seiches.—Pronounced fluctuations in the level of the waters of Lake Michigan, amounting to from 1 to 2 feet, occurred at Grand Haven, Mich., between 10 and 11 a.m. on the 14th. These were accompanied by marked changes in barometric pressure. No damage to shipping was reported.

MAY LAKE LEVELS.

The following data are from the report of the United States Lake Survey:

	Lake Supe- rior.	Lakes Michigan, Huron.	Lake Erie.	Lake Ontario.
Above tide water at New YorkAbove or below:	Feet. 602. 13	Feet. 581.05	Feet. 573. 98	Feet. 247. 9
Stage of April, 1913	+0.47	+0.25	-0.02	+0.1
Stage of May, 1912	+0.23	+1.08	+1.39	+1.1
Mean stage of May last 10 years	+0.11	+0.33	+1.22	+1.14
Highest recorded stage	-0.92	-2.47	-0.44	-0.9
Lowest recorded stage	+1.31	+1.49	+2.50	+3.0
Probable change during June	+0.30	+0.30	+0.20	+0.1

TABLE 1 .- Climatological data for May, 1913. District No. 4, Lake Region.

		11 -	years	Temp	erature	, in (legre	es Fah	renh	eit.	Prec	eipitation	, in in	ches.	days		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy 0.01 inch or mo	Number of clear days.	Number ofpart- ly cloudy days.	cloudy days.	Prevailing wind tion.	Observers.
Minnesota.	0-14-	000		47.0		00	07			80					10		17	10		de la maria l'assay
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Wisconsin.									0									7	- 111	
npleton shland sayfield ecil ornucopia randon lorence ond du lac rrand River Locks rreen Bay ligh Falls on River cewaunee (anitowoc tensaha tenomonee Falls	Outagamie Ashland Bayfield Shawano Bayfield Forest Florence Fond du lac Marquette Brown Marinette Bayfield Kewaunee Manitowoc Winnebago Waukesha Milwaukee	795 615 635 804 640 1,060 1,293 800 770 617 1,125 1,096 616 764 842 681	12 22 4 15 1 18 22 27 17 27 1 4 62 16 4	48. 5 49. 0 54. 0 46. 4 50. 9 50. 4 55. 6 56. 6 53. 4 52. 2 49. 9 49. 0 51. 0	+ 0.9 - 2.0 - 1.5 - 0.1 - 1.3 - 0.8 - 0.6 - 1.1	85 79 80 83 86 83 82 86 90 70 79	1 1 31 28 2 1 1 1 1 27 28 3 3	19 28 28	10 9 9† 10 10† 10 10 10 10 10 10	30 33 36 37° 43 38 33 46 47 29 35	7. 63 4. 59 4. 50 5. 10 4. 13 4. 25 3. 74 7. 83 6. 22 5. 49 4. 55 5. 67 7. 16 6. 26 5. 65	+ 3.99 + 1.02 + 1.05 + 2.08 + 1.75 0.00 + 4.47 + 1.39 + 1.92 	1.59 1.20 2.04 0.84 1.20 1.02 2.17 1.20 1.22 0.83 1.47 0.93 1.08 2.08 1.23	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 13 10 8	13 12 12h 10 5 10 17a 21 18 4 13 17 14 7 19 17	13 16 11 3a 2 5 10 7 7 8 11 5	18 10h 8 10 10a 8 8 17 11 7 9 13 7 10 12	se. ne. ne. se. sw. s. s. se. ne. se.	William O. Thiede. Agr. Exp. Station. Rev. Sabinus Mollitor. Louis W. Schmidt. Reed Fruit Co. Frank Shoemaker. Fred S. Evans. Edward A. Seeley. Jerry Parkinson. U. S. Weather Bureau. No. Hydro-Elec. Pow. Co Winfield E. Tripp. Capt. N. Craite. Miss Johanna Lups. Geo. T. Allanson. Arthur H. Christman. U. S. Weather Bureau. U. S. Weather Bureau.
(ilwaukee ew London conto. shkosh ine River lum Island lymouth ort Washington acine ijoon turgeon Bay uperior Vaupaca Illinois.	Musukee Oconto Wimebago Waushara Door Sheboygan Ozaukee Racine Fond du Lac Sheboygan Door Door Waushara Waupaca	762 590 744 900 588 843 713 633 1,031 831 600 701	43 17 22 24 18 5 3 20 16 3 14 14 4 18	54.8 53.6 55.2 55.4 47.4 53.6 51.8 55.4 56.0 52.7	+ 0.1	85 ⁶ 86 69 83 80	1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 31 2	26 34 28 28 29 27 28 27 29 31 30 35 35 32 25	10 10 10 10 10 10 10 11 10 10 10 10 10 1	40 38 39 ^b 40 31 32 35 39 30 36 29	6.88	+ 2.65 + 1.19 + 1.81 + 4.77 + 1.79 + 2.58 + 3.40	1.50 0.97 1.44 2.04 0.88 1.39 1.20 1.15 1.53 1.62	000000000000000000000000000000000000000	14 12 9 15 9 16 12 15 14 12 15 14 14 14	13 10 20 16 ^h 4 12 10 9 16 10 11 8 9	10 5 7b 18 7 10 10 6 12 9	11	se. e.	August H. Pape. Harry M. Lord. Evan Vincent. George H. Carpenter. William Robinson. Paul P. Feldrappe. Richard C. Kann. Daniel Davis. Ripon College. Louis C. Meyer. Adam N. Dier. Edward B. Banks. James H. Flagg.
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owers. i. Ignace uult Ste. Marie eney homaston ictoria. /atersmeet /hitefish Point.	Menominee	868 593 614 730 1,347 1,263	13 23 25 1 16 3 4 13	49.0	- 0.3	94 81 81	1 2 1 1 1 1 1	26 20	10 6	50 42 38 42	3. 32 3. 51 3. 25	- 1.40 + 0.50	0. 57 0. 60 1. 10 0. 83 0. 80		11 6 4 12 11	21 3 17 11	11 2 17 6 2	11 8	nw. nw. nw.	C. & NW. Ry. D., S. S. & A. Ry. U. S. Weather Bureau. Western Land Securities D., S. S. & A. Ry. R. S. Schultz, jr. B. N. Grant. Robert Carlson.
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TABLE 1.—Climatological data for May, 1913. District No. 4—Continued.

			rears.	Temp	erature	, in	degre	es Fal	irenl	neit.	Pre	cipitation	, in in	ches.	lays,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	cloudy days.	Prevailing wind d	Observers.
Lower Peninsula—Con.			-			-									10	-	14	10	20 987	Walanda AM
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TABLE 1.—Climatological data for May, 1913. District No. 4—Continued.

		-	ears.	Tem	perature	e, in	degre	es Fal	renl	heit.	Pred	eipitation	, in in	ches.	ays,	-	Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfail, unmelted.	Number of rainy d	Number of clear days.	Number of part- ly cloudy days.	cloudy days.	Prevailing wind d	Observers.
Ohio-Continued.			10																	
Cleveland (2) Conneaut Findlay. Fremont Hedges. Hillhouse Hiram. Hudson Lima. Medina. Montpelier Napoleon North Royalton Norwalk Oberlin Ottawa. Sandusky Tiffin Toledo. Upper Sandusky Vickery. Wapakoneta.	Ashtabula Hancock Sandusky Paulding Lake Portage Summit Allen Medina Williams Henry Auglaize Cuyahoga Huron Lorain Putnam Erie Seneca Lucas Wyandot Sandusky Auglaize	675 776 628 725 997 1,260 1,123 880 680 1,038 1,009 629 775 720 629 775 788 888 888 888 888	16 3 24 11 19 20 33 52 14 25 20 20 27 38 20 20 27 38 20 20 21 42 36 36 20 20 20 20 20 20 20 20 20 20	58. 0a 59. 4s 59. 8 58. 2 59. 9 60. 2 60. 6 57. 6 59. 4 58. 4 59. 6 59. 2 58. 8 60. 0 58. 4 60. 8	- 0.3 - 0.8 - 0.2 + 0.1 - 0.3 - 0.1 - 0.3 - 0.1 - 0.6 - 1.5 - 1.1 + 0.1 - 0.9 - 1.0 - 0.5 - 1.4 - 0.6 - 0.7	87 85 88 87 88 88 84 87 86 88 88 85 84 87 87 87 87 87 87 88 88 88 88 88 88 88	5 4† 22† 25 4† 5 2 2 2 16 2 2† 5 5 5 2 3 5 5 2	35 35 26 30 27 25 29° 28 24 29 29 29 27 27 27 28 29 37 31 32 26 26 28	11† 10 11 11 11 10 10† 11 11 11 11 11 11 11 11 11 11 11 11 11	34 44 37 39 36 33a 34 41 44 41 45 35 33 33 84 2 37 33 34 34 35 40 36 36 36 36 36 36 36 36 36 36 36 36 36	3. 06 2. 85 3. 31 3. 41 2. 83 4. 56 4. 19 2. 26 3. 45 4. 63 4. 63 4. 69 4. 77 7. 39 5. 43 7. 94 2. 43	- 1.31 - 1.05 + 0.13 - 0.15 - 0.63 + 0.26 + 0.72 - 0.65 - 0.34 + 0.86 + 1.27 + 1.44 + 0.92 + 4.12 + 1.51 + 4.49	1. 24 3. 57 2. 00 2. 56 0. 70	000000000000000000000000000000000000000	10 12 11 8 8 8 12 8 9 6 6 12 8 9 6 6 10 8 8 8 11 12 12 10 10 10 10 10 10 10 10 10 10 10 10 10	15 6 19 17 17 16 13*18b 16 19 20 18 11 11 18 8 6 6 15 12 9 11 11 11 19	8 9 5 5 9 10 12 5 5 5 4 1 14 10 12 3 17 12 10 11 14 8 16 13	8 16 7 9 5 5 5 6 6 12 7 7 7 12 6 3 8 10 6 13 6 8 10 6 10 6 10 6 10 6 10 6 10 6 10 6	SW. SW. W. N. W. SW. W. W. SW. SW. SW. SW. SW. SW. S	Rev. F. L. Odenbach, S. J. E. L. Ransom. Dr. E. A. Moser. E. Stanley Thomas. Charles Stutzman. J. W. Doncaster. Prof. G. H. Colton. Dr. W. I. Chamberlain. Miss Ollie De Long. F. W. Clark. G. L. Laser. A. C. Senter. Miss Lillian Grothaus. W. S. Edgerton. Giles R. Gregory. Prof. F. F. Jewett. Prof. J. T. Maidlow. U. S. Weather Bureau. Prof. T. H. Somnedecker. U. S. Weather Bureau. Robert E. Tracht. John W. Barr. Dr. William Kayser.
Wauseon			1	58.3	- 0.6	80				40	3.00	+ 0.82	2.68 0.76	0	9	16	11	4	n. s.	Thomas Mikesell. C. M. Richardson.
Pennsylvania.	Erie	. 658	40	55.8	- 1.5	83	5	36	10	30	2.68	- 0.75	0.91	0	14	9	16	6	w.	U. S. Weather Bureau.
New York. Adams Center. Angelica. Appleton. Auburn. Avon. Brockport. Buffalo. Canton. Cape Vincent. Chestnut Lawn. Dannemora. Elba. Fayetteville. Gabriels. Geneva. Harkness. Hemlock Lake. Hunt. Ithaca. Keene Valley. King Ferry. Lake George. Lake Placid Club. Lauterbrunnen. Lockport. Lowville. Moira. Nethasane. North Lake. Ogdensburg. Old Forge. Oswego. Otto. Palermo. Perry City. Philadelphia. Potsdam. Ranger School. Raquette Lake. Rochester. Romulus. Shortsville. Skaneateles. Syracuse. Tupper Lake. Volusia. Watertown. Wedgwood. Wedgwood. Westfield. York.	Allegany Niagara Cayuga Livingston Monroe Erie St. Lawrence Jefferson Clinton Wyoming Clinton Genesee Onondaga Franklin Ontario Clinton Livingston do Tompkins Essex Cayuga Warren Essex Wyoming Niagara Lewis Franklin Hamilton Herkimer Oswego Cattaraugus Oswego Schuyler Jefferson St. Lawrence do Hamilton Monroe Seneca Ontario Ontario Cattaraugus Oswego Schuyler Jefferson St. Lawrence do Hamilton Monroe Seneca Ontario Onondaga do Franklin Chautauqua St. Lawrence Jefferson St. Lawrence Jefferson St. Lawrence Seneca Ontario Onondaga do Franklin Chautauqua St. Lawrence Jefferson Schuyler	1,340 2,340 715 586 587 767 448 146 151 1,090 1,490 530 1,729 622 1,000 1,321 928 1,000 200 1,884 485 1,733 335 1,410 460 1,750 1,766 423 719 740 597 1,522 1,167 1,600 540 1,430	46 13 5 12 29 5 43 9 54 33 7 37 0	53. 4 55. 1 55. 5 55. 4 55. 5 56. 9 55. 6 55. 6	- 0.9 - 0.8 - 3.4 - 1.4 - 2.9 - 2.8 - 0.6 - 1.6 - 0.2 - 1.7 - 2.8 - 2.8 - 2.5 - 0.5 - 0.7 - 2.1 - 0.7 - 2.3 - 0.7 - 0.8	85 87 91 84 89 90 91 85 84 89 91 85 88 88 88 88 88 88 88 88 88 88 88 88	443444444444444444444444444444444444444	300 222 344 229 311 325 327 227 228 227 225 227 225 230 211 300 211 300 211 301 288 311 326 222 219 219 210 210 210 210 210 210 210 210 210 210	111 11 11 15 11 11 15 12 12 10 12 12 10 12 11 11 11 11 11 11 11 11 11 11 11 11	444 366 358 388 266 343 399 399 392 406 499 399 397 337 333 341 445 442 466 307 347 448 349 349 349 349 349 349 349 349 349 349	2.64 2.48 3.51 2.36 3.51 2.16 2.59 2.09 3.15 2.26 2.69 3.15 2.28 3.51 2.69 3.15 3.15 3.15 2.69 3.15 3.15 3.15 3.15 3.15 3.15 3.15 3.15	- 1. 37 - 0. 18 - 0. 12 - 0. 35 - 0. 62 - 0. 21 - 0. 62 - 0. 59 - 0. 41 - 0. 59 - 0. 59 - 0. 59 - 0. 50 - 0. 59 - 0. 59 - 0. 50 - 0. 59 - 0. 50 - 0. 59 - 0. 50 - 0. 10 - 0	1. 24 1. 20 1. 15 1. 180 1. 100 1. 10	T. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 6 6 8 100 133 111 111 133 111 8 5 8 8 8 8 144 9 133 7 7 111 8	8 16 12 9 9 12 200 12 13 12 11 11 10 9 9 13 12 16 9 12 17 17 17	16 8 21 9 14 13 13 13 2 13 6 9 9 16 6 6 6 6 11 12 10 10 10 10 10 10 10 10 10 10 10 10 10	5 3 11 8 9 10 15 4 6 6 6 14 11 7 7 7 7 7 2 6 6 9 10 10 10 10 10 10 10 10 10 10 10 10 10	SW. SW. NW. NW. NW. W. W	A. E. Cooley. Chas. P. Arnold. H. A. Van Wagoner. A. H. Underwood. W. G. Markham. C. O. Beaman. U. S. Weather Bureau. Do. J. Harry Grapotte. W. R. North. Chas. Peterson. Dr. W. N. Thayer. Joseph S. Wilford. Dana H. Wells. Gabriels Sanitarium. Agricultural Exp. Station. J. W. Harkness. Bernard P. McGrady. W. S. Barager. U. S. Weather Bureau. E. R. Wells. Luclus A. Goodyear. Chas. Forsell. Henry van Hoevenberg. James O. Howard. Robert N. Clark. Prof. W. F. H. Breeze. C. E. McBride. L. W. Brown. John F. Redmond. State Hospital. Mrs. S. W. Nelson. U. S. Weather Bureau. William J. Winke. W. B. Bartlett. W. H. Jeffers. E. D. Babcock. A. E. Sutherland. Prof. P. T. Coolidge. R. J. Dunning. U. S. Weather Bureau. John H. Coryell. C. H. Latting. John Durkan. U. S. Weather Bureau. John H. Coryell. C. H. Latting. John Durkan. U. S. Weather Bureau. John P. T. Coolidge. R. J. Dunning. U. S. Weather Bureau. John P. C. P. T. Coolidge. R. J. P. Dunlap. O. F. Covvin John R. Rogers. M. N. Stewart.
Vermont. Burlington Cornwall Enosburg Falls Hyde Park Northfield Wells	Addfson	517 601 576 876	5 19 21 1 26 20	52.0 51.4	- 1.5 - 3.6 - 4.1 - 2.4	86	2 4† 5 5 3†	28 20 20 ¹ 21 27	15 15 15 15 15	43	4.05	+ 0.28	1.10	T.	11 12 10 12 9	10 10 5	8 7b 8	12 13 12 18 9	n. b nw.	U. S. Weather Bureau. C. H. Lane. L. H. Pomeroy. A. V. Wiswell. U. S. Weather Bureau. E. R. Pember.

*, b, *, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
**Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

Table 2 .- Daily precipitation for May, 1913. District No. 4, Lake Region.

Stations	Watershed.														1	Day o	of mo	onth.	•														
Stations.	watersned.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Minnesota.																																	
quetluth	L. Superior		. 02	.01		T.		T.	T.				. 40	T.	T.	1.30	. 93	. 10			. 90	. 35	T.	· · · ·	. 15		m		· · · ·	1.55	T.		5.
odwood	do	. 03	.31	.11				T.				. 25	.04		.06	. 91	. 73	. 08			. 88	.24	.01	Т.	.01		1.		Т.	1. 10	Т.	Т.	4
nd Marais	do																																
phens Mine Harbors	do		. 30	. 10					T.				. 30			1.70	15	. 20			18	. 18	.05	• • • • •	T.					.80	T.		4
o Harbors	do	T.	.30	.30	. 03							T.	. 40			1.32	. 03	. 17			. 03	. 86	. 04		. 05			T.		. 56		.02	4
Wisconsin.																																	
oleton	Fox			. 02	. 88	1.31			. 14				.08	. 40	. 20	.81	T.	. 22			. 48	. 90	. 03	- 20	T.		T.		. 57	1.59			1
landfield ‡	L. superior	. 03	.21	.17				4					.09			. 93	. 53	. 15			1.20	. 39		1.						1		4	1.
I	Fox. L. Superior			T.	2.04	.28			T.					T.	. 03	. 85	T.				.34	.54	T.	T.	T.			T.		1.02	T.		Ι.
																		. 17	****		1.20	. 62	. 02		T.			. 03		. 80	. 35		н
enced du Lac	Menomonee.					1.02										. 42		. 30				1. 01	. 05								. 00		
d du Lac	Fox			T.	1 20	1. 10			. 17				. 10	. 50	. 17	. 40					1.00	. 88	. 05		T.		.38		.72 T	2. 17	. 05	• • • •	
nd River Locks. in Bay	L. Michigan			T.	1. 17	.37			. 11				. 04	. 13	. 65	.36	.01	. 11		T.	1.02	.33	.01	.01	. 01				.07	1.09			
Falls	L. Superior			T.	. 83	. 43			. 30				.01			. 52	T.	. 15			. 64	. 62	T.	T.	. 01			.01		. 52	.51		
River	L. Michigan	.00	. 25	. 17	.22	. 93	****		.12				T.	.12	.08	. 65	1.20	. 13	T.	••••	. 46	. 68	.11					****	****	. 80	1.	****	-
itowoc	do			T.	. 47	.72			. 12				. 02	. 50	. 89			.04			1.08	1.01	.02							1.00	. 20		
asha Falls	L. Michigan. do Fox. L. Michigan.			T.	2.08	. 17	04		. 17				. 04	. 05	1.34	62	.18				1.09	. 51	. 03				08	. 40	72	1. 10	т.		
omonee Falls				. 04	. Uo	. 00			. 02				T.	1.04	.39	. 03	1.			T.	1. 05	.09	T.	T.			1. 12	.02	.72 T. .07	.58	T.		1
													. 13	. 15	*	1.50		. 18			. 46	. 96	. 05					. 10		1.40			1
rosh	L. Michigan.			T.	. 97	1.60	. 19	****	. 19				.03	59	9.4	. 83		. 15 T			. 43	. 61	T .02	****	****	****	.07		.08	1. 44	. 23	****	1
London ato kosh River I sland mouth	do			T.	1. 18	. 25		T.	. 14				.07	. 49	.51	1.08	T.	. 23			1.33	.28	.02		T.		. 05	. 97		2.04	. 19		1
n Island	L. Michigan.				. 88	.70			.29				. 04	40		. 41		. 11			. 15	. 76		01			99			1 19	. 23		
Washington	do			T.	. 03	.62	.08		.08				. 05	. 62	. 12	.30					. 90	.51		.01			.91		. 15	1. 20	.00	. 10	ı
ne	do			. 06	. 02	.35	. 53		T.	. 03			T.	. 41	. 18	. 33					1.00	. 63		T.	. 02		1. 15		. 61	. 29	.02		1
m	Fox			.01	. 46	1.53			. 13				. 15	. 47	.20	. 53					1.00	. 69	T.	T	.01		. 35		. 43	1.21	T	50	
ooygangeon Bay	do				. 53	1. 15	. 45		. 19				. 06	. 32	T.	. 91	Т.	.21	. 03		35	. 82	. 03	. 06	.11		. 10	T.	4.	. 35	.35	. 00	1
paca	L. Superior		. 13	. 18					. 10				. 27			1.03	. 21	. 78	. 04		. 40	1.20	. 08		. 01				. 06 . 15 . 61 . 43 T.	3.03	. 05		
paca	Fox			. 01	1.96	. 16				••••			. 32	. 34	.24	1.07	. 04	. 24			. 68	. 82	.06					. 94		1.65	****		
Illinois.					+				_					-				_				-	,	m	-	00	1 70	-	000	00			
agohland Park	L. Michigan do			T.	T.	1.72			T.	. 02				. 67	.06			Т.		T.	1. 65	T.	T.	т.	. 18	T.	2.37	.02	.02	.02			
Indiana.																																	
urn	Maumee do Maumee L. Michigan.									T.					.38	T.	. 07				T.	. 23	. 41	T.	T.	. 25		2.30		.04	T.		
Wayne	Maumoo									01				T.	. 93	.01		. 15			04	. 38	. 02			. 14 T	1.52	. 05		04			1
amond	L. Michigan.				T.	.30	. 10			T.				. 20	. 90	. 12	****	T.		T.	. 55	. 81	. 02			. 05	2,00	. 32	T.	T.			1
re []	St. Joseph						. 06							. 18			. 58	. 02			. 10	. 52	. 40	. 10		. 15	. 40	1.50		. 10	. 10		ı
re []re Dameting	I. Michigan					. 33				01	T.			. 47	.01	. 42		. 05			1.63	. 47	. 01		11	. 01	2.75		02	.02		T.	I
Michigan.	L. Michigan.	****				. 22				.01				. 10	. 94	. 22		.02		****	1.00	.01	1.	****	. 11		2.01		.02			*.	1
	Taka Gun		10										10			200	10				10	10						200		20			
land	Ontonagon		T.	.11	T.	****						****	T.		****	.50	T.	.51	****		. 10	.30	T.		T.			.20		.95	.13		
met	Lake Sup		.08	.02	.04				T.				.31			.76	.08	.80			T.	. 50	. 10		. 01			T.	T.	.02	. 23		
hamPark	do				.01	m	т.				. 60		30			T	1.00					20	. 50		. 20							****	
our	St. Marys				. 12											1.					.,		. 40										
e Harbor	Lake Sup																											· · · ·		90			
naba	Lake Mich Ontonagon		T.	T.	.90			****					.16	****	.08	.26		.04			.26	. 63	T.	T.	T.	T.	****	T.		. 38			5
d Marais	Lake Sup					. 15			. 05	**			.60			.05					T.	.80											-
n	do	Т.	.07	.03					· m		****		.18			70	.33	40		****	200	.33	.05		T.			.12	T.	.34	T	T.	1
ghtonl	Escanaba	1.	.07	T.									T.			. 31		1.12			. 20	. 46	T.		T.			. 15		. 43	T.		
Mountain	Menominee				.78				T.							. 57		.06			. 40				. 04			T.		. 17			1
Riverwood	Lake Sup		.07	T.									.10	T.		. 20	T.	.48			.56	.32	.ii		.08			****		1.08			1
eming	Escanaba		T.		.50	T.							.05			. 05					T.	. 40		T.	T.			T.		.01			-
Royale	Lake Sup	****					****													****					70								
le Ridge	Lake Huron.				.02		.17						.17			.14		.05		****		. 64	.17	Т.	T.	****	****				.40		
quette	Lake Sup		T.	.32	. 35	T.							. 11		T.	. 25	.04	. 15				. 41	. 07		.06			. 01		. 12			-
ominee	Menominee				.83								T.		. 45		. 09					. 60	.05	.04	T.					. 76	T.		1
berry	Lake Sup Tequamenon			****	.50	. 10	.04		.16		****		. 21	.01			.15		T.			.74		.04	****								1
ers	Lake Mich																																-
gnace	Lake Huron.												40					91	.01		01	90	10		T.						T.		-
Ste. Marie	St. Marys Manistique				. 49	. 25			.11	••••						.04	. 03		.01		.01	. 29			1.								1
maston	Lake Sup		T.													.30					1.02				T.					1.10			
oriaersmeet	Ontonagondo			T.									. 25			.52	.08	. 80	.02		.58	.83	.07					T.		.63		• • • •	
tefish Point	Lake Sup		.02	.08			.03		.12					.02		T.	.30	.12			.08	.42	.15	.17	.02								-
wer Peninsula.																																	1
ian	Raisin									T.					. 36	1.04						. 58	. 34										
gan	Kalamazoo				T	. 17	. 29						T.	. 34	.46	. 54	12	. 08			. 19	. 44			T		.87			. 69			
na	Saginaw Lake Huron.					.70	.10		.12				T.	.01	.46 T.	1.06		T.			.00	. 67	.02	.02	.01		.17	.06			. 33		.1
	Huron												T.	.02	. 62	1 91	. 25	T. T.			.02	.84	. 05				.40	.95	1	T.	.29		
Arbor	Saginaw	0.0 0 02	0000		0000	0000		0000					* 0 1	. 0-	.08	T. OT	. 20	10			T,												

^{*} Estimated from records of surrounding stations.

TABLE 2.—Daily precipitation for May, 1918. District No. 4—Continued.

au H-ma	Watershed.				-										D	ay o	f mo	nth.						N									1.
Stations.	watersned.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Potes
ower Peninsula— Continued.																												-	M	Cala			(1)
ttle Creek	Kalamazoo				.04	.20	. 22						.03	.07	. 62		.32	T.	T.		T.	.20	. 28	T.	T.	. 05	.08	.92		.18	.18		3.
nzonia	Saginaw Betsey			. 05	.08	.46	.14		.06				T.		.05	.20	T.	T.			. 47		T.	T.	.07					T.	.00		3.
g Rapids	Muskegon						.30			.05					.08	.85		T.	T.		.26	. 23	i. iò	10				1 40		.04			2.
lissfield	Raisin Lake Mich					.15	.06			.03			.12	.16		. 95	.65 T.				. 15	.16	.02	T.			.61	1.42		.13	. 20		5.
adillac	Manistee					T.	. 54									. 80					. 21	. 45									. 16		2.
assopolis	St. Joseph Lake Mich					.23	.30		.32							.27						. 95						1			****	****	2
harlotte	Kalamazoo						. 15									2.60							.72			.39	.38	.10		.38			4
heboygan	Cheboygan					.35	. 25	••••	. 25	T.		****	T.	.20	.56	.52		T.				.80	.10			.05	. 61	1.24		.14	.05		2.
oldwater	Raisin St. Joseph						.04								.43	.27	.18					. 55	. 26	T.			.80	.66		.35			3
roton	Muskegon Detroit				T.	.07	.32		T.	.02			T.	.15		1.32		T.			.22	. 21 L 19	T.	ii	T.	T.	T.			.14 T.	.08		1 4
etroiturand	Saginaw					.05					T.					. 66		.10				. 25											1.0
ast Tawas	Rouge					. 25	.60						.05	.05		1.96		T.				.07 1.05	.17	. 03		.01	26	1.53		T	.27		6
loise	Au Sable					.13	.31						.06			. 32		.10			.03							1.00					1
lint	Saginaw						.10							. 04	.14	. 30	1.50	.10			.47	1.20	. 23	. 15		.05		.10			. 25		3
rankfortanges	Betsey Lake Mich					.34	.03							. 29	.39	. 50		.01			.41					.04	1.13	.01					12
aylord	Cheboygan.					T.	.49		.12				T.	.12		. 29						.79	.01		T.								1 2
ladwinrand Haven	Saginaw Grand			.02	T.	.26	1.20	****	T.				100	.37	. 29	1.40		T.			.56	.01	T.	T.	.01	****	.18	3		.43			2
rand Rapids	do			. T.	T.	.34			T. T.				T.	.37	1.11	. 01		T.			. 22	.01		T.	.06		. 19			. 45			. 1
raperass Lake	Raisin						T.		. 90						. 55	1.35		.02		****		1.07	.26	T.	••••	.01		1.13		.02			5
rayling	Au Sable					. 26			.18				. 28			. 24		T.			. 33			T.	T.				T.		T.		2
reenvillearbor Beach	Grand Lake Huron						.10									. 12	0.	. 58					05										0
artison	Saginaw Lake Huron						. 42									. 46					: 10												. 1
arrisville	Lake Huron Pentwater.				.08	. 18							. 13	. 07		. 33					. 03		. 02	. 02	. 12		.10			98	. 05		3
artaves	Diggon			1	1	T	27							112		. 75					T.	. 09	. 30	. 11						. 20	.00		1
ighland	Huron													.08	. 26	1. 65	. 34				T.	. 82		70		. 15		. 60			. 15		. 3
illsdaleolland	Huron. St. Joseph Lake Mich. Au Sable Saginaw Manistee					16	.06		••••	T.				. 30	. 16			.02			. 19		. 03	1.		.01	. 42	0 .43		42			3
oughton Lake	Au Sable					. 10			. 01				. 02			. 75					. 07	. 34											. 1
owell	Manistee					27	35		T.				T.	.00	. 44	1.50	. 65	.08			. 21	1.05		Т.	0.9		1	. 34			. 10		1 2
ekson	Uland					. 04	. 35 T.								. 81	1. 28	. 17		. 14			. 32	. 06		. 03		. 50	8 .4	5	. 32			4
oddo ohannesburg	St. Clair Cheboygan.					. 20	. 40			T.			10		. 02	. 93	. 30				T	1. 15	T.	T.	T.		T.	. 20	8		T.		2
alamazoo	Kalamazoo.					. 15								. 50		. 30		. 18				. 55						1.1		. 38			. 3
ansing (Agr. Col.).	Grand					. 21							. 01	. 20	. 30			. 08				. 18	. 22	. 05		. 03		3 .0		. 09	. 48		2
ansing (capitol)	Saginaw						. 26		****					. 01	. 35		. 14	.14	. 13			.14			.03	.00					. 47		3
udington	Pere Mar-			T.	. 02	. 54	. 07		. 01				T,	. 32							. 79	.14	. 00		. 01					. 18	. 18		. 2
uther	quette. Manistee				T	1.11	. 29		. 03		1		T.	. 34	. 03	. 65					. 16	. 40			. 03					1.16	35		2
ackinaw	Lake Huron																																
ancelona	Lake Mich. Manistee						. 80						. 60								.11	1. 33		• • • •	T.		• • • •			20		21	2
arshall	Kalamazoo.									1							1				1												
lidland	Saginaw Maumee					T.	. 20		T.	.03			T.	T.		1.00	1. 18 2 . 18				T.		T.	T.			T.	7 1.3			T.		. 1
ount Clemens	Clinton									.00	1			T.	T.	1.0	1.18	T.	1		. 00	. 25	T.	T.	T.	T.		1.1			. 50		. 3
ount Pleasant	Saginaw					. 13								59	2						.12									2.00			. 0
ld Mission	Muskegon Lake Mich.	-			0	. 26	15		.05				.06	. 16		. 30		.0	2		.10	. 95	.07				. 5			2.00		. 09	9 2
livet																																	
mer naway	Lake Huron Cheboygan.						. 55		20							3						.80											i
W0880	Saginaw						. 30							.0		.50	. 20	. 20				. 15		. 0	. 02	. 11	.0	5			. 28	T.	1 0
etoskeylymouth	Rouge					. 75			. 52				T.			1.18	. 10	. 13	2			1. 25	.08 T.	.07	Т.		T	1:0	5		Т.	T.	. 2
ontiac	Clinton													T.	. 18	3 1. 14	. 55	.0			T.	. 22	. 78				. 1	3 .4	5		. 05		. 3
ort Austin ort Huron	Lake Huron						. 25						T.	1		1. 2	2	.08			T.	.38	T.	.08			0	4	8		.01		. (
eed City	Muskegon					. 05	. 34		. 01	1					T.	. 74	5				. 27	. 35	.00	.04	T.			3 . /		iii			. 2
oscommon	Au Sabla	1				0.00	. 38						. 07	7		. 2	7				. 30	. 43						· · · ·			06		. 1
oscommon. aginaw, East Side. aginaw, West Side.	Saginaw do Lake Mich.			-	T	22			T					.13	2 .07						. 03		.0	T.	. 05	. 00					. 03		. 1
t. James	Lake Mich.				2	. 80	1.10		. 28				08	3		2	3	. 0				1. 58	. 0										. 1
Josephandusky	. DL. JUSCUII					19										7	2 .14	.2			.08	114	. 02		3			0 .1	0				
aranac	Grand					.20									. 34	. 5	.03	1	3		. 09							7		3	5		
outh Haven hornville	Lake Mich.															200	1	1	.1			1 4							5 .1				: 1
raverse City	Lake Mich.					T.									. 2	2	2.10				T.	.13	2										
ASSAT .	Lake Huror	1												. T.	. 5	6	8				T.	77		.1	1	. 2				- 4			
est Branch	St. Joseph Lake Huron						.10	3									5 . 50	. 1			.00	1."	1		1		1.0	2 .1	0	1	0		
psilanti	. Huron									.0	2				. 6	5 . 6	3 .10	5 T.				. 50	.43			. 0	7 .4	0 .9	3	- 0	2 .18	5	
Ohio.	Lake Erie.									0	5			1	1 ,	41.0	1 0	6					. ,	0	т.	0	1		3 .4	0	. 0	2	
ntwerp	. Maumee							1					: :::		3	1							.10	3				2.0	7				
enton Ridge	do						T.			T.					0	9 T.	0	5				50	1.4	T.		. 0	5 1.0	21.2	2	3	0		14
kron	Sandusky							0		. O					1	5 1	2 .2	0 .1				8	2 .1	0.0	3 T.	.0	5 .2	01.3	0 .0		72		
ducyrus develand (1)develand (2)develand (3)develand (3)devela	Sandusky Lake Erie						T.			. 1	0		. T.	.0	3 .0	4 .8	2 T.	T.				T.	1.2	9		0	2 .6	0 .7	0	0	1 .24	1	
onneaut.	do									.1	1			0	2 .0	7 1.1	1 .0	3		,		1.1	.2	.0		.0.	2 .6	.5	5 .0	5	14		
indlay !!	. Maumee									0	1 T	1			0	5 T.	.10	0	0	7	T.	O.	1 3	7	03	3	. 0	92.1	5 .0	2 T.		7	. 4
remont	. Sandusky									0	9			1	6 T.	1.6	1	0	8			. 10	1.6	1			1	19 4	m	2	(4)	1	. 1

TABLE 2 .- Daily precipitation for May, 1913. District No. 4-Continued.

															1	Day	of mo	nth.														
Stations.	Watershed.	1	2	3	4	5	6	1	7 8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
hio-Continued.																																
	Yaha Bala									10	8				. 06	. 44	. 91		. 03			. 13	.27		T.	.06	. 19	.75	.07		07	
	Lake Erie													T.	T.	79	75					.12	.31	T.		.02	.32	. 60				
dson	do									0	6				*	*	1.00					. 04	. 40	. 05			. 52	.80			-41	
na []	Maumee									. T.						T.	.08		. 05		T		.75			T.	. 10	1.87	T.	T. T.		
lina	Lake Erie									0	6			.06		. 39	. 41				1	. 12	.12	. 05		. 134	. 31	, 02				
némalian	Maumee									. T.				. 30		. 31						. 99		T.	. 09	. 05	1.60	. 86				
oleon	do					,			1	16				. 05			00		т.		. 35	. 48		. 15	.09	.08	. 47	94		T.		
Bremen	do						T.			- T.				.01	20	.75	65		1.			. 00				.01	.86	.54		1.		
th Royalton	Lake Erie									0						1.20											.00	1.62	.22		.20	
rlin	do						T.			1.0				. 10	.14	. 70						.04	.18				.57	1.05				
wa	Maumee						T.			T				T.	. 20	.70 T.		.07				. 62	1.25	T.			1.01	1.25			. 02	
lusky	Lake Erie						T.							. 02	.74	. 61		.14			T.	. 45	.58	T.		.02	1.17	. 89		.01		
n	Sandusky						. 02							T.	.07	.76	. 05	T.					1.24	.04		T.	1.15	1.09		.11	.02	
do	Maumee						T.							.12	1.43	. 89	.33	. 03			T.	.89	T.	CU.			2.24 2.00	1. 38		. 26		T.
er Sandusky	Sandusky						T.			T				T.	. 10	2.56	. 03		.01				1.84	02		.00	. 81	1 73		.23	03	
ery	Lake Erie Maumee		****				T. T.			T						.02	. 00	.03	.01	****	****	. 25	.22	T		.12		.30		. 08	00	
	do										0 T.						.08	.00	.07		T.	. 58	.33		. 09		.09	2.68	.02	.10		
kliffe	Lake Erie										5					. 35	.76					.06				.03	.36	. 59				
	1		1					1									1						1		1			1		1		
Pennsylvania.																							1									
	V W								1			1		1 24	00	. 61	02	01	00			60	10		T.	09	00	74	00		01	-
	Lake Erie									0	1			. 14	.02	.01	.01	.01	. 09			.04	. 10		1.	.02	.00		.02		.01	
New York.								1					1																1			
New Zork.										1		1																				
ms Center	L. Ontario						T.				. T.						.18		.30			T.	. 65						. 91			
alion	Genesee	1		1		1						1	1			07	. 20	.13				. 22	. 35	, 29	. 03			. 26	. 91			
leton	L. Ontario Oswego Genesee														. 01		. 28		. 30		****	.21	.39						.14			
urn	Oswego				T.											·	T.		T.			.06	1.40	. 52	70	.09			1.35			
n	Genesee													70		T.	.08		12			.03		. 10	T.	1.		59				
alo	L. Ontario							-					T	1.	****	.10		.01	.11			37	53	.05	.01	03		1.24	T			.01
on	Lake Erie Grass					0000	02	2	7	T	T			.06	3		.28		. 45			T.	.53	.02	.01	. 01		. 42	.83			
Vincent	St. Lawrence						.00					1		1				.16				. 05	. 40					2.50	.07			
V	Champlain			1										03	3		. 20		.10	.02			. 55					. 08	1.15	, 23		
tnut Lawn	Genesee Champlain															.06						.06	. 63	. 28	.06	. 03		. 40	1.80			
nemora	Champlain						T.			T	T.						.04						1.00		. 05	. 15	.10	.60	1.10			
B	L. Ontario															T.	T. T.					T.	1.00	69	T. .02				.75			
etteville	L. Ontario Oswego St. Regis				T.					T)				30		.30		.13	. 09	. 04		. 50	.18	. 00	.02	01		1 59	90	10		.01
riels	St. Regis					0000				1				. 10		.03		10	. 03			.49		.00		T	24	1.00	.04	. 10		.01
kness	Oswego L. Champl'n										-			T.		.00	.34		.08				. 26	.03	.16	. 03		. 16	. 89	. 14		
lock Lake	Genesee						T.									T.						. 03	. 76	T.			*	*	1.06			
t	do															. 05	.06					. 05	.70	. 22	.02	.02		1.94				
ca	do Oswego					. 13	T.			0	2			T.		. 05			. 13			. 05	. 50		.07	.01			. 91			
ne Valley	Ausable								. 11					. T.	. 04	.06	.19		. 02	. 06		. 03	.09	. 15	. 10	. 14		. 64	.12	. 73	. 14	
Ferry	Oswego														T.	T. T.			.14			. 03	. 54		.04			.40	.97	10		
e George	L. Champl'n Ausable, W.B						780				0 1			146	T.	Т.	.11	.05	.10	19		.06	. 10	. 44	. 26	- 11			1.15			
e Placid Club terbrunnen	Ausable, W.B Genesee						T.			0	8 .1	3		. 10				.00		.14		.04	64	18	.01	. 11		42	2.00			
cport	I. Ontario													T		T.	T					T.							. 00			
ville	L. Ontario Black								7		1	1	T.			.07		. 05				. 01	. 83	.28					. 57	. 12	2	
3	St. Lawrence								70	T				. T.			. 35	.02	. 22			. 01	. 35	.03		T.	T.		. 90	T.		
asane	Black									0	1 . 0	2 T.		09	.06		. 47					T.			. 02			. 35	1, 15	. 04		
h Lake	do St. Lawrence																		. 32			T.						. 52	1.03	T.		
ensburg	St. Lawrence									T	. T.			Т.			. 25		. 60				. 52		.04			.35	1.75			T.
Forge	Black L. Ontario																. 05		. 26	. 03			. 70	. 25	. 05			. 34	. 92			T.
ego	L. Ontario			- m						. T					****	.01	.05	. 28	19		.04		1. 11	. 10	1.	. 00			73			
rmo	Lake Erie L. Ontario			1.	.09	.04		-								. 10		. 20	27		.01	. 30	52	70	. 05	10			1.57			
y City	Oswego					02	06	18						. 02		.02						.09	. 41	.67	.07	.02						
adelphia	St. Lawrence									0	5 T			07	7		.39			. 03			. 67	.03				. 53	1, 27	. 13	3	
	Raquette								02	0	4				. 14			. 22	.32	. 25			. 44	- 10				. 34	1 . 76	. 15		
ger School	Oswegatchie									1	0 .1	1		03	. 03	. 02	. 28	.01	T.	. 09			. 50	.05	T.	T.		. 2	1.01	. 03	T.	
uette Lake	Raquette									T	0	3		. T.		. 40	. 21	. 04	. 11			T.	. 53	. 16	.08 T.			.31	1.08	. 22	2	
hester	Genesee													01		T.	.02		. 15			. 06	. 73	. 04	T.	T.		. 98	. 64			T.
ulus	Oswego															T.	T.												1.11			
tsville	do						70							. 10		. 10	05	. 19	11			04	. 31	10				1.00	1.03	7		
tsville	do						T.									.01	.05	15	. 11			95	70	10			19	80	1.18			
neateles	do				783		T		00000					T		.03	OS	. 10	19			.00	30	44	T.	T	. 13	1.0	61			
per Lake	Raquette				1.		1.			1	5 T			24	. 08	.01	. 26	0,02	10	. 23	.02	.02	. 50		.07		. 22	. 22	1. 22	2 .00	3	
sia	Lake Erie			1				-			1				. 00	. 15	. 20		. 18			. 11	.32	.02	.14	T		1.37	7 . 7!	5	1	
akena	dododododododoLake ErieOswegatchie BlackOswegoLake Erie									1	0 .1	1	. 0	2 .06	. 02	.31	T.	. 16	. 12	T.		. 56	. 05	T.	T.		. 20	1.11	1 . 02	T.		
ertown	Black				2000									. 03	3		. 20					T.	. 42	. 05				. 49	. 59	. 05	5	T.
lgwood	Oswego					T.	T.			T	T					. 04	. 05		.05			.07	. 07	. 80	. 19	. 07	. 01	. 54	1 .64	1		
	Lake Erie															. 19	. 29		.31			. 65	. 39	T.	. 05			1.33	. 21			
k	Genessee													. T.		T.	.09		.02			.06	. 24	. 14		. 05		56	1.32	2		
Vermont.					1								1																			
lington	L.Champlain								.02										. 21	T.		T.	. 49	.30	.02	. 01		. 16	. 90	. 18	8	т.
wallsburg Falls																																
about Talle	do	T.								1	5 T.			. T.				T.	. 19	.70					. 11							
sourg rans			2	1	1		P						.1						ne	06			60	0.4	9.8	0.0		O	a: 21	N 5.5	71	
le Parkthfield	do		0000	0000								-							.02	.00		0000	. 00	. 04	. 15	. 02		. 00	5 .81			

^{*} Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0,01 inch rain or melted snow.

TABLE 3 .- Maximum and minimum temperatures for May, 1913. District No. 4.

	,			Wisco	onsin.	1 12 12		a.		F	ort '				U	pper M	ichiga	n,					Lo	wer M	lichiga	an.	
		Flore	ence.	Green	Bay.	Milwa	ukee.	I	ago,			Escar	aba.	Ew	en.	Houg	hton.	Marq	uette.			Alpe	na.	Bat	ttle ek.	Cadi	illac.
Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
77 45 54 48 62	45 33 32 38 39	83 75 66 61	53 43 47 49	82 82 72 64 60	57 60 64 49 50	83 83 74 78 68	56 61 57 60 56	83 85 81 80 72	57 62 59 65 53	81 84 81 82 83	51 57 62 62 63	61 63 67 54 61	44 44 41 45 45	83 75 70 58 61	56 40 48 43 47	81 52 63 56 59	48 39 38 40 40	87 73 80 55 62	65 37 37 39 43	82 78 79 62 67	41 44 46 47 40	87 88 83 82 77	48 58 64 56 52	81 85 83 82 75	42 49 56 60 65	78 78 75 73 72	5: 5: 5: 5:
58 51 52 54 51	32 32 31 29 36	58 60 56 59	38 27 25 26	60 58 57 47 53	41 36 42 35 31	59 48 63 50 47	45 40 43 36 34	61 55 68 50 45	48 45 49 40 38	66 62 70 60 52	50 43 42 41 33	54 44 52 43 50	35 30 33 29 30	52 58 61 60 58	31 25 35 20 28	46 54 47 45 54	31 31 32 30 31	49 47 48 38 51	31 29 32 30 32	45 52 44 35 45	32 29 35 31 31	61 47 50 42 51	37 32 38 31 28	68 64 64 59 55	52 37 40 43 29	59 59 54 49 52	4 3 4 2 2
57 69 50 35 42	36 48 34 31 31	64 64 59 56 49	29 42 37 31 36	59 69 55 48 70	36 44 44 40 42	50 69 62 48 75	37 43 41 38 42	52 74 68 57 79	41 48 48 46 50	62 69 77 61 82	34 40 53 50 49	51 64 52 50 44	36 44 36 34 39	65 63 56 52 49	41 39 30 30 37	61 62 48 38 43	33 42 35 33 35	67 67 47 38 44	36 44 34 33 35	58 55 43 54 46	28 38 36 33 38	53 62 59 45 44	31 41 38 35 39	63 69 74 60 80	31 40- 49 50 47	62 59 60 57 59	2 4 4 3 3 3
53 59 54 48 41	38 40 34 34 35	69 59 ° 55 59 55	39 47 37 30 36	64 64 59 54 47	44 45 44 41 42	56 71 63 53 52	46 52 49 43 41	59 71 60 56 62	50 55 52 46 48	65 77 65 67 71	49 47 50 46 51	52 62 57 53 51	40 44 39 35 41	68 57 52 56 48	39 35 40 26 31	61 55 49 50 48	39 38 38 35 36	50 61 52 43 47	42 45 40 38 35	57 57 45 45 56	40 41 36 35 32	59 68 59 60 52	41 43 39 33 36	66 72 63 65 62	49 46 49 41 51	71 65 56 59 50	4 5 4 3 4
42 57 66 54 38	35 42 44 33 32	48 49 67 61 61	40 39 42 35 30	54 52 64 62 50	46 46 45 41 38	69 55 60 74 46	47 47 46 39 38	76 57 56 72 46	55 50 48 46 41	78 63 55 70 70	54 51 46 42 53	47 47 62 57 49	41 44 44 35 32	48 54 68 57 62	37 38 31 33 27	42 55 65 48 50	38 38 40 31 28	44 48 56 56 37	37 37 44 34 32	51 50 61 63 53	45 45 40 35 29	47 50 59 66 46	42 43 45 41 35	75 53 57 69 55	50 51 47 41 47	60 58 57 64 60	4 4 4 3
54 76 59 51 73 81	33 42 42 40 45 53	66 70 78 71 80	31 36 43 52 43	54 72 74 61 74 75	40 39 55 52 53 54	47 66 72 60 66 63	40 42 60 47 50 51	55 62 76 72 68 64	44 47 59 51 57 54	55 67 79 71 78 80	46 48 48 57 58 55	55 55 67 58 61 64	40 39 43 50 52 51	70 76 77 65 65 79	33 45 40 49 52 39	60 73 65 55 62 79	32 42 43 48 47 46	54 71 62 64 63 84	32 48 41 44 49 51	58 68 66 72 64 76	31 33 42 40 41 40	50 59 72 59 64 73	32 39 51 44 51 51	52 70 80 63 69 77	40 40 45 46 55 54	55 70 75 64 71 76	3 3 4 5 5 5
55.2	37.1	62.8¢	38.0¢	61.8	45.0	62.3	46.0	65.2	50.1	70.4	49.4	55.1	39.8	62.0	36.9	55.7	37.3	56.3	38. 9	57.6	37.2	60.5	41.4	68.1	46.5	63.1	42.
	L	ower M	lichiga	n.					Oh	io.			1111						Nev	w York	τ.	1111		Tirel	Vern	nont.	30
	Max. 777 45 54 48 62 58 51 52 54 51 57 69 50 35 42 42 57 66 64 38 54 41 77 66 54 38 54 57 67 68 58 58 58 58 58 58 58 58 58 58 58 58 58	777 45 45 33 554 33 62 39 58 62 39 58 32 551 32 552 31 554 29 56 48 57 36 69 48 50 34 42 31 42 31 43 35 54 34 48 34 41 33 42 35 57 42 66 44 41 33 38 32 54 33 38 32 54 33 55 42 57 42 68 44 51 35 57 42 68 59 42 51 40 51 52 55 42 51 40 55 43 55 59 42 51 40 51 53 55 59 42 51 40 53 38 54 33 55 32 55 37 56 32 57 32 58 32 58 32 59 42 51 40 51 53 55 2 37.1	Minn. Max. 77 45	Minn. Max. Min. Max. Min. 45 33 83 53 53 54 43 62 39 61 49 58 51 32 60 27 52 51 36 59 48 64 42 50 34 55 31 42 31 49 36 53 38 69 39 59 40 59 40 59 40 59 40 59 40 59 40 55 36 59 40 55 36 59 40 55 36 59 40 55 36 59 40 55 36 59 40 55 36 59 40 55 36 59 40 55 36 59 40 55 36 59 40 55 36 59 40 55 36 59 40 55 36 59 40 55 36 57 42 49 30 55 42 35 48 40 57 42 49 30 55 43 36 61 30 54 42 56 42 57 42 49 30 55 42 56 43 36 61 30 55 56 59 40 55 36 59 59 59 59 59 59 59 59 59 59 59 59 59	Max. Min. Max. Min. Max. Min. Max. 77 45	Minn. Florence. Green Bay. Max. Min. Max. Min. Max. Min. 77 45	Duluth, Minn. Max. Min. Max.	Nax Min. Max. Min. M	Duluth, Min. Max. Min. Min. Max. Min. Max. Min. Min.	Duluth, Min. Max. Min. Min.	Duluth, Min. Max. Min. Min. Max. Min. Max. Min. Max. Min. Min. Min. Max.	Duluth Min. Max. Min. Min. Max. Min. Min.	Duluth Min. Max. Min. Min. Max. Min. Max. Min. Max. Min. Max. Min. Min.	Duluth, Max. Min. Max.	Duluth, Min. Max. Min.	Duluth Minn Max Min Max Min	Duluth, Minn. Max. Min. Max. Min.	Duluth Minn Max Min Max Min	Nax Min. Max Min. M	Property Property	Duluth Min. Max Min. Mi	Duluth Min. Max Min.	Duluth, Min. Max. Min.	Nax. Min. Max. Min. Min. Max. Min. Max. Min. Max. Min. Max. Min. Min. Max. Min.	Duluth Min. Max Min.	Duluth Min. Max Min.	Duluth Min. Max. Min.

		L	ower M	lichiga	in.					Oh	io.									Nev	w York	τ.			TOTAL !	Vern	nont.	
Date.	Det	roit.	Musk	egon.	Sagi West		Cleve	eland.	Lim	a. §§	Sand	usky.	Tole	edo.	Erie	, Pa.	Buff	alo.	Can	ton.	Roch	ester.	Syra	cuse.	Burl		North	nfield.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1 2 3 4 5	79 84 83 84 82	49 59 64 62 62	74 77 75 75 76 70	51 56 63 58 56	81 85 83 82 77	52 56 59 62 61	74 81 85 84 86	46 62 63 63 64	79 84 83 82 84	38 48 55 58 60	80 85 85 85 86	49 57 62 62 63	80 85 84 83 83	51 58 64 63 64	70 75 82 82 83	47 61 61 65 63	61 67 75 76 76	42 50 66 68 70	67 79 84 87 85	40 54 57 60 60	73 82 86 85 86	45 57 59 62 62	74 80 85 88 86	44 61 61 57 64	66 84 76 84 79	34 46 56 56 56 59	68 82 83 75 85	27 37 47 49 49
6 7 8 9 10	68 58 65 57 53	43 39 41 33 34	57 56 51 50	48 38 49 40 33	66 58 62 50 55	40 33 43 33 29	70 54 58 56 44	51 43 42 40 38	68 63 71 59 53	58 43 37 46 34	70 56 59 58 48	49 44 44 39 38	69 59 67 58 50	46 40 43 38 32	73 54 55 52 46	52 43 40 39 36	73 57 58 50 43	47 43 38 34 32	77 55 59 54 42	52 39 31 37 30	76 58 62 53 44	49 41 39 35 34	78 55 63 53 41	54 44 36 38 34	80 59 .55 57 41	59 42 34 40 32	84 59 59 56 40	47 34 26 40 31
11 12 13 14 15	55 62 74 60 76	39 41 49 45 45	57 58 64 61 76	30 44 48 46 45	60 63 67 61 74	36 40 47 44 45	49 64 66 56 79	43 37 56 51 52	60 70 78 78 81	28 35 49 53 53	53 66 71 56 82	37 38 53 49 49	55 67 76 57 81	39 40 50 47 47	48 57 62 56 71	38 37 53 47 40	50 53 58 58 58 65	33 40 45 45 45 43	53 63 58 54 53	28 29 46 33 25	52 61 62 55 56	34 36 47 42 41	48 59 62 56 57	32 37 49 43 37	52 59 57 55 53	33 29 40 40 28	49 58 58 51 56	30 25 32 29 21
16 17 18 19 20	62 75 64 63 61	51 47 48 44 49	64 63 57 60 57	46 52 45 42 48	64 73 61 62 60	50 47 45 41 46	59 75 63 54 62	53 52 53 50 48	67 77 70 69 74	53 47 50 41 50	64 79 67 58 60	53 50 52 46 49	65 78 68 62 61	52 50 50 46 51	61 68 64 54 57	47 46 51 45 42	55 64 59 51 62	45 45 50 43 44	46 63 67 54 61	41 45 45 39 35	60 77 68 58 63	47 47 46 42 40	64 70 66 53 60	50 49 48 42 40	46 62 59 55 60	41 43 45 44 39	43 57 54 55 58	38 39 42 42 31
21 22 23 24 25	63 59	51 51 49 49 37	69 58 64 65 57	49 45 29 40 39	76 58 .55 69 54	50 49 47 44 38	80 68 54 60 61	54 54 52 51 48	82 59 57 70 71	52 54 48 44 44	82 64 57 67 64	55 52 50 53 54	78 64 57 70 65	54 51 50 51 48	80 71 56 56 61	50 54 51 48 49	75 65 54 54 60	50 49 47 48 45	62 69 59 64 53	37 52 52 49 43	68 72 59 63 59	48 58 51 50 46	59 71 60 58 59	44 55 52 47 47	57 62 65 60 63	36 50 52 48 44	62 53 62 59 65	32 47 51 43 41
26 27 28 29 30 31	64 72 66 66	36 45 50 54 52 54	55 62 77 65 65 69	42 44 52 54 58 55	54 67 79 68 70 75	36 45 48 52 53 56	58 56 64 62 62 64	47 52 52 56 54 50	59 64 80 71 78 80	47 49 43 55 57 51	56 59 67 62 67 67	45 52 50 57 53 52	54 63 74 65 64 72	46 48 51 54 54 55	56 58 60 62 62 65	43 46 49 51 48 51	58 58 59 63 68 60	40 46 47 50 48 51	61 56 58 61 67 72	35 46 51 45 41 51	55 58 64 64 68 70	42 50 50 50 45 56	60 58 55 59 64 68	39 50 47 46 45 54	60 58 54 53 68 71	41 43 47 48 45 49	60 56 50 52 65 68	38 36 45 45 44 44
Mn	67.2	47.5	63.5	46.6	66.7	46.0	64.8	50.9	71.6	47.9	67.1	50.2	68.2	49.5	63.1	48. 4	60.8	46.6	62.7	42.8	65. 1	46.8	63. 5	46.6	61.6	43.3	60.7	38. 1

*, b, e, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning: the maximum temperature then read is charged to the preceding day on which it almost always occurs.

CLIMATOLOGICAL DATA FOR MAY, 1913.

DISTRICT NO. 5, UPPER MISSISSIPPI VALLEY.

GEO. M. CHAPPEL, District Editor.

GENERAL SUMMARY.

TEMPERATURE.

With respect to conditions in different parts of the district the climatological features of May, 1913, exhibited greater contrasts than usual. In North Dakota and northwestern Minnesota the weather was dry and comparatively cool; in central sections the month was wet and slightly cooler than usual; while in southern Missouri and Illinois droughty conditions obtained, and there was a slight excess of temperature. Considering the district as a whole, however, the month was relatively cool and wet. In Iowa and surrounding territory the wet weather greatly interfered with corn planting and other outdoor work, but favorable conditions during the closing days of the month enabled a great amount of the delayed work to be brought up to date. In the southern parts of the Missouri and Illinois areas the need of moisture was becoming urgent at the close of the month. Frosts that proved damaging locally oc-cured on the 10th and 11th, as well as on the 23d; but there was no widespread injury from that source during the month in this district. The most severe storm was that of the 13th in Iowa, where at some points it closely approached tornadic conditions, and considerable property was destroyed in and about Alta. The appearance of the storm clouds as they neared Des Moines, Iowa, was most ominous, and this, together with the memories of the recent Omaha tornado, caused much apprehension. Fortunately, however, only a severe thunderstorm resulted. Press dispatches chronicle the instant death of Miss Ella Stuckenbruck, by lightning on the afternoon of the 21st. She was about to lock the door of the school where she was teaching, near Belle Plaine, Iowa.

The following table presents in condensed form the leading features of climatological interest for the various parts of the district:

	1	Гетрега	ature.			1	Precipi	tation.		
Parts of States within District 5.	Mean.	Departure.	Highest.	Lowest.	Average.	Departurre.	Greatest total.	Least total.	Average snowfall.	Average number of days with precipi- tation.
North Dakota	51. 1 53. 0 53. 5 54. 4 59. 2 65. 3 59. 6 62. 2	-1.5 -1.8 -3.0 -1.3 -0.7 +0.9 -0.2 +0.1	100 99 92 91 96 100 86 98	11 19 24 17 30 33 27 28	1. 65 3. 46 3. 20 5. 36 6. 37 2. 93 5. 61 3. 47	-1.00 +0.28 +0.65 +1.68 +1.96 -1.36 +1.49 -0.66	4. 00 5. 98 3. 97 8. 77 10. 25 9. 12 6. 67 8. 32	0.59 1.05 2.42 0.90 3.87 0.88 4.38 0.41		11 9 12 13 13 9 12

The mean temperature for the district was 56.9°, or 0.9° lower than the normal. In the southern two-thirds of Illinois and over the Indiana and Missouri areas the month was slightly warmer than usual; over the remainder of the district there was a deficiency in temperature, which reached 3° or 4° in North Dakota. Cairo, Ill., with a mean temperature of 68.4°, was the warmest point, and Hannah, N. Dak., with a mean of 47.1°, the coolest point. In a great majority of cases the lowest temperature of the month at the various stations occurred either on or about the 6th or 10th; at those times frosts formed southward into Iowa and northern Illinois, but only nominal damage resulted. Another cool spell prevailed about the 23d with some frost reported. The lowest temperature recorded was 11°, at Bottineau, N. Dak., on the 11th. In parts of Wisconsin and Illinois, and in Indiana, the highest monthly temperatures occurred on the 1st or 2d, but over the remainder of the district they were observed some time during the closing five days. Exceptionally high temperatures for May occurred during this latter period, and in some instances all previous records for the month were surpassed. At Des Moines, Iowa, the highest temperature on the 29th was 96°, which is 2° higher than ever before recorded in May. The highest temperature reported in the district was 100°, at McKinney, N. Dak., on the 28th, and at Steffenville, Mo., on the 31st.

PRECIPITATION.

In some parts of the district the month was the wettest May in years, if not on record, while in other sections droughty conditions obtained. A few stations in Iowa and one station in Missouri reported more than 9 inches of rainfall, while a small area in southern Illinois had less than half an inch. The month was dry in the southern Missouri and Illinois areas, and in North Dakota and northwestern Minnesota. The average precipitation for the whole district was 4.33 inches, or 0.57 inch more than the normal. The greatest amount reported was 10.25 inches, at Britt, Iowa, and the least was 0.41 inch, at Windsor, Ill. In the small Missouri area the distribution of the rainfall was decidedly irregular, two observers within 30 miles of each other reporting too much moisture, and damage from drought, respectively. Steffenville, Mo., reported a fall of 9.12 inches, while at Louisiana, Mo., only 0.88 inch fell. Both stations had 7 rainy days. The greatest amount of precipitation reported in 24 consecutive hours was 3.04 inches, at Dwight, Ill., on the 20th-21st.

480-13-

Snow.—Light snow occurred at a few points in the extreme northern part of the district, Leech Lake Dam, Minn., reporting a monthly total of 1 inch.

RIVERS.

Moderately high stages prevailed in the Mississippi all the month, but no flood stages were reached. As a rule, the highest stages of the month occurred at its close. During the last week of the month the Illinois River at La Salle covered the bottom lands, and some corn was ruined. The estimated damage was \$5,000.

MISCELLANEOUS.

The sunshine was deficient over those regions where the rainfall was heavy, but elsewhere there was the normal amount or more. The average number of clear days was 12; partly cloudy, 9; cloudy, 10. The prevailing winds were northwesterly, but at many stations, especially in southern sections, the prevailing direction was southwesterly. The highest velocity reported was 52 miles an hour from the southwest, at St. Paul, Minn., on the 1st.

ERRATA.

Report for April, 1913.—Charles City, Iowa; Total precipitation published, 1.98, should be 2; departure from the normal published -0.85, should be -0.83; precipitation on 10th published 0.73, should be 0.75; mean maximum temperature published 60.2, should be 60.1. Hettinger, N. Dak.: Mean monthly temperature published 47.6, should be 47.4. Minto, N. Dak.: Greatest 24-hour precipitation published 0.19, should be 0.22. Merrill, Wis.: Monthly minimum temperature published 20, should be 18 on 20th. Sugar Creek Dam, Wis.: Number of partly cloudy days published 2, should be 3.

TABLE 1.—Climatological data for May, 1913. District No. 5, Upper Mississippi Valley.

and the state of			year	Temp	erature	, in c	iegree	es Fab	rent	neit.	Prec	ipitation	, m in		days,		Sky.		direc	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	8 2	Number of cloudy days.	Prevailing wind tion.	Observers.
North Dakota.	0	074				00	0.7	04	10		0.05	0.14	0.00			10	6	13		C. F. Weed
neniattineau	Cass Bottineau	954 1,638	17 21	52.1 49.9	- 2.4 - 1.3	98 94	27	24 11	10 5 6	51 46	1.09	- 2.14 - 1.19	0.38	0	12 10	12 5	8	18	nw. se.	C. E. Wood. H. F. Steinmeir.
wbells	Burke Towner	1,958 1,488	12	49. 4 53. 9d	+ 3.2	93 98d		23 15d	12	47 55d	1.40 1.88	- 0.95	0.33 0.65	0	9	17		3		G. H. Phelps. E. T. Judd.
vils Lake	Divide		8	48.8	- 2.5	89 92	27	22 26	2 13·	42 37	1.54 0.88	- 1.32	0.37	0	10	16	8	7 15	se. ne.	H. C. Kaschau. U. S. Weather Burea
nnybrook	Ward	1,760	14	49.9	0.0	92	28	24	6	45	1.99	- 0.58	0.65	T.	7	13	3	15	nw.	C. J. De Vore.
mseithkman	Rolette Bottineau		17	50.0	- 2.4	91	27†	26	6†	43	1.51	- 0.18	0.56	0	11	9	14	8	nw.	C. E. Goodsell. Geo. Yenny.
senden	Wells	1,610 1,249	1 21	51.0	1.5	97 93	27 27†	26	21	48	0.96 3.27	+ 0.37	0.34 0.83	T.	7 14	10	5 12	16 10	nw.	G. T. Seymour.
rmanafton	Walsh	827	21	50.6	- 1.5 - 2.6	95	27	28 22	6	45	1.44	- 0.79	0.83	0	10	14	4	13	SW.	A. Maltby. A. R. T. Wylie.
nville nnah	McHenry	1,504 1,568	8	47.1		91	27	20	21	46	1.19		0.31	0	8	9	7	15		W. A. Christianson. J. Moffatt.
nsboro	Towner		5 7	49.6		92	27	24	2	46 40 42	1.68		0.35	0	8	14	12	5	nw.	Geo. Dale.
lsborokota		901	12	52.6 49.0	- 1.1	93 92	27†	24 27 23	2	42	1.38	- 1.19	0.38	T.	10	12	14 22	5	nw.	F. E. Mayall. C. R. Pettes.
ngdon	Cavalier	1,615	17								1.81	- 0.57	0.37		ii	15	5	ii	nw.	J. Woolner. J. M. Freeman.
bon	Ransom	1,091	18	53.6	-2.1 + 1.1	96 97	27 27	23 26	6 6	43 51	2.47	-1.30	0.37	0	9	12	5	14	nw.	W. S. Adams.
Kinney Leod	Renville	1,640	19	00.0	- 1.2	100a 93	28 27	24a 21	6	49a	1.01	- 1.17	0.55	0	3 12	3	20	8	nw. n.	N. P. Swenson. Martin Reinholt.
nfred	Wells	1,605	10	52.4	+ 1.4	95	27	25 23	51	48	2.08	- 0.64	0.90	0	7	13	10	8	nw.	P. B. Anderson.
yville nor	Traill	975	17	53.2	- 1.9	96	28	23	10	44	1.81 2.68	- 1.14	0.50	0	10	13	5 18	13 10	n.	W. C. Gould. Hj. Edman.
not	Ward	1,557	17	51.8	- 0.5 - 2.4	93	27 27	25a	6	42a	1.62	- 0.49	0.54	0	9				W.	Louise Bates.
ska	Walsh Barnes	820 1,270	20 8	51.0	- 2.4	94 96	97	22 23 23 22 22	6 2 6 1	42	1.53	- 0.96	0.30	0	12 10	3	21	11 7 5	nw.	S. S. Marsh, J. J. Taylor.
k River	Walsh	998 789	9	51 4		93 92	27 27 27 27	23	6	38 43	1.19	- 2.04	0.52	0	12	15 11	11	5 16	ne. w.	P. J. Prochaska. C. W. Shumaker.
mbina wer	Richland	1,020	21	51.4	- 3.1	944	27	26a	6	42ª	2,22	- 0.60	0.54	0	7	9	4 7	15	nw.	J. A. Power.
wneriversity		830	11 21	52.0	- 3.6 - 3.1 - 1.2 - 2.5 - 4.4	93	27 27	23 25 25	6 9 6	45	1.39	- 1.52 - 1.08	0.34	0		6 13	6 5	19 13	nw.	B. Bagley. U. S. Weather Burea
hpeton	Richland	962	19	51.4	- 4.4	94	27	25	6	41	1.57	- 1.08 - 1.23	0.60	0		12	4	15	nw.	Fred E. Smith.
lhallasthope		966	6 7	51.1		96	27	23	6	48	1.87		0.75	0	9	11	17	3	ne.	W. A. Meddaugh.
llow City		1,471	21		- 1.1	94	26	23 22	6	49	1.16	- 0.84	0.55	0		4	22	5	nw.	M. A. Ostby.
Minnesota.																				
bert Lea	Douglas		22 19	57.4 52.4	- 0.6 - 1.8	91 91	29 27 27	34 32	10 10		5.85 4.59	+ 1.66 + 1.19	1.25 1.78	0	9	12	12	7 19	sw. nw.	Edward Carey. P. O. Unumb.
gus	Polk	870	11		-1.8 -2.2	99	27	23	61		1.18	- 1.47	0.40	0	9	14	9	8	SW.	John Nadvornik. Jens Nelson.
gleyudette	Beltrami	1,084	3	49.0		86	27 27	24	10		2.18		0.80	T.	13	12	11	8 7	nw.	J. A. Gielhaug.
ardsley midji	Bigstone		17	56.0	- 0.5	94	27	30	10	39	4.51 1.76	+ 1.35	0.99	0	12	5	19	7	nw.	G. L. Fitzgerald. C. W. Warfield.
d Island	Renville	1,039	23	55.0	- 1.7	89	27 27	30	10	38	3.52	+ 0.34	0.59	0	14	6	9	16	nw.	Dr. F. L. Puffer.
ainerdedonia	Crow Wing	1, 215 1, 179	20	53.5	- 0.5	95 86	27 29	27 36	10		3.08 4.66	- 0.06	0.82	0	13	15	8	8	ne. nw.	Theodore Miller. W. D. Belden.
mpbellss Lake	Wilkin	984	6	52.4		91	29 31	28	6		3.73		0.92	0	13	13	2	16	nw.	J. T. Neisess. C. W. Burns.
llegeville	Stearns	1,282	20	53.3	- 3.0	89	27 27	31	25	34	5.25	+ 2.12	1.71	0	13			11	ne.	F. Tembreull.
okstontroit		863 1,364	24 17	51.0 50.4	- 3.0 - 2.5 - 2.6	91 92	27 27	29 25	8 9	39 44	1.05 2.63	- 1.84 - 1.12	0.38	0		12	8	16	s. nw.	A. G. Andersen. G. W. Peoples.
7	St. Louis		1																	. Iver Wisted.
irmont (near)	Martin	1,240	1 15	1	- 1.2	90	29	36	9	38	4.92	+ 0.88	1.06	0	10	9	10	12	nw.	W. F. Wherland. Dr. A. B. Moulton.
rmington	Dakota	902	25	55.6	- 0.9	91	28†	30	10	45	3.48	0.00	0.87	0		10	5 9	16	nw.	E. D. Akin.
rgus Fallsrt Ripley	Ottertail Crow Wing	1, 210 1, 136	5	52.3	- 1.6	89 90	27 27	34 24	10	42	3.78	+0.52 + 0.12	0.62		9	13 13	0	18	nw.	C. E. Kissinger. J. J. Tucker.
sstonencoe	Polk McLeod	1,289 1,000	16	48.0		88 89	27 27†	25 32	61	35	1.39 2.40	- 1.24	0.30	0	13	15 14	13 17	3	nw. n.	O. N. Hem. L. V. Koos.
and Meadow	Mower	1,338	25	54.2	- 1.8 - 1.4	88 87	29	29	10	38	5.32	+ 0.57	1.27	0	13	11	6	14	nw.	C. F. Greening.
ll Lake Dam	Cass Kittson	1,215 815	14		- 2.6	87 94	27† 27	31 22	10		3.77	- 1.55	0.67	T.	13 10	10	15	12	nw.	U. S. Engineer Corps D. A. Robertson.
lstad	Norman	870	7	50.6		93	27	24	6	47	1.13	1.00	0.24	0	8	16	0	15	ne.	A. G. Holstrom.
nckley ternational Falls	Pine Koochiching	1,050 1,112	10		+ 0.6	90 85	27 27	28 25 20	10		1.88	+ 1.96	0.95	T.	10	13	7 12	11 13	ne.	W. R. Newman. C. M. Ardies.
sca State Park	Clearwater Blue Earth	1,500	2	50.2		89	27	20	9	43	2.08		0.54	0	12	10	14	12	nw.	J. A. Stillwell. W. P. Cobb.
ke Crystalech Lake Dam	Cass	1,301	25		- 0.6	88 84	29 28 28	36 22	10		4.92 3.74		1.42			7	19	5	s. nw.	U. S. Engineer Corps
tle Fallstlefork	Morrison		3			90 83	28 27	31 20	9		2.84		0.86	0	13	12		9 7	n.	Wm. Batters. O. C. Olson.
ng Prairie	Todd	1,299	21	52.7	- 2.0 - 1.7	90	27	26	10	50	4.18		1.03	0	13	3	17	11	nw.	A. L. Sheets.
ndnkato	Blue Earth	1, 175 758	20 15		- 1.7	92	29	30	11	36	3.84 4.66	+ 0.20 + 1.22	1.32			18		11	nw.	J. W. Rouse. C. G. Staley.
aca	Millelacs	1,072	14																	. C. H. Foss.
ananeapolis	Chippewa Hennepin	955 918	19 22		- 3.3	88	27	30 34	10		3.79 2.86	+0.54 -1.06	0.78	0		6 9	14	11	nw.	O. K. Opjorden. U. S. Weather Burea
ntevideo	Chippewa	900	23	54.5	- 3.3 - 1.5 - 2.2 - 2.6	93	27	31	10	43	3.41	- 0.04 - 1.27	0.90	0	17	7	14	10	se.	L. G. Moyer.
orhead		935	32	52. 2 52. 0	1	95 88	27 27	30 29	10		1.68 3.96		0.40	0		12	12	7 7	n. ne.	U. S. Weather Bures Hans Peterson.
rris	Stevens		28	53.2	- 2.6 + 0.2 - 2.0 - 4.2	88 90	27	30	6	36	4.75	+ 1.66	1.12	0	14	15	5	11	8.	D. T. Wheaton.
w London w Richland	Waseca	1, 215 1, 180	19 19	55.6 55.8	+ 0.2 - 2.0	88 89 92	27	40 32 32	10	34	3.43 4.27	+0.09 + 0.33	1.10 0.94	0	16	8 9	13 13	10	nw.	Harold Swenson. N. O. Tyrholm.
w Ulm	Brown	791 1,343	33	55. 4 53. 6		92 88	29	32 34	10	37	4.18	+ 0.63	1.25	0	12	8	1 10	22 10	S.	A. L. Henle. J. B. Johnson.
akisrk Rapids	Hubbard	1,426	23	49.8	- 2.8	00	27 27 27 27 27 27 27 29 29 29 27 27	28	6	47	3. 20	- 0.05	0.94	0	12	10	4	17	nw.	Dr. P. A. Walling. E. H. Kerkhoff.
ne River Dam	Morrison		26	54.9		90	27	29 26	9		2.92 3.77	+ 0.22	2.80 0.85	0	3 9	14	15	15 5	ne. n.	E. H. Kerkhoff. U. S. Engineer Corps
kegama Falls	Itasca	1,280	26	48.6	- 1.7 - 2.0	90 88 86 87	27† 27 27	19	9	45	4.18	+ 0.22	1.47	0.2	15	12	12	7	nw.	Do
dlaked Lake Falls	Beltrami	1,152	5	50. 2		87 82a	27 29	25 27	10		1.05		0.35	0	5	17	15 12	7 7 2	w. sw.	A. C. Goddard. E. G. Buse.
			17	A 21 6		000	20	-		20.	3.92	+ 0.17	0.92	0	12	10	8	13	W.	Louis Back.

Table 1.—Climatological data for May, 1913. District No. 5—Continued.

			years	Tem	perature	e, in	degre	ees Fal	hrenl	neit.	Pre	cipitation	n, in in	ches.	days,		Sky.		direc	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy 0.01 inch or mo	Number of clear days.	Number of part- ly cloudy days.	cloudy days.	Prevailing wind cition.	Observers.
Minnesota—Continued.																				
Reeds Landing Rochester. Roseau St. Charles St. Cloud St. Paul St. Paul St. Paul State Sanatorium State Sanatorium Stillwater Paylor Falls Plaf River Fails Fracy	Wabasha. Olmsted Roseau. Winona. Sherburne. Ramsey. Nicollet. Aitkin. Cass. Washington. Chisago. Pennington.	681 991 1,040 850 1,020 940 825 1,234 694 759 1,137	17 8 3 22 36 42 18 20 5 7 6 2	54. 4 48. 6 55. 5 56. 1 55. 9 56. 4 48. 4 52. 2	- 2.3 - 1.5 - 3.7	91 89 88 95 89 92 84 92 ^a	28 27 28 28 28 27 29 27 28 27	27 20 28 31 37 30 25 28 ^a 26	10 6† 10 25 9 10 10 9	40 45 37 47 36 37 38 50*	4.05 4.57 1.37 4.93 4.26 2.95 3.03 3.48 2.82 3.27 3.56	+ 0.01 + 1.10 + 0.16 - 0.67 - 0.58 + 0.19	0.74 0.98 0.34 0.93 1.20 0.65 0.97 1.30 1.27 1.18	0 0 0 0 0 0 0 0 0 T.	10 11 11 12 15 15 13 12 7 7 11	12 12 16 14 9 8 13 6 11 20 13	0 4 12 3 11 12 11 19 10 ^a 1	19 15 3 14 11 11 7 6 9a 10 7	se. nw. se. nw. nw. s. nw. w. n.	John Deschneau. Mary P. Leslie. M. J. Hegland. S. W. Gleason. State Reformatory. U. S. Weather Bureau. State Hospital. U. S. Engineer Corps. Dr. G. W. Beach. Oscar Ostrom. Minneapolis Gen. Elec. Co. E. W. Lown. A. H. Rowland.
Warren Varroad Winnebago. Winnibigoshish Winona Worthington. Cumbrota	Lyon. Marshall Rosseau. Faribault Itasca. Winona. Nobles. Goodhue	859 1,069 1,100 1,300 700 1,593 917	1 3 15 25 17 18 17	59.0	- 2.0 - 2.1 - 0.9 - 3.3 - 2.8	99 85 94 87 91 87 87	27 27 29 27 28 29 28 29 28†	26 23 33 25 31 32 27	6† 6† 9 9 10 6 10	52 41 36 41 42 31 35	1.57 2.04 4.17 3.85 5.98 5.09 3.65	- 0.10 + 0.89 + 1.16 + 1.30	0.50 0.75 1.10 0.85 1.23 1.30 0.55	T. 0 0 0 0 0 T.	6 8 12 12 15 15 15	9 12 14 10 9 10	10 10 5 12 8 1 13	12 9 12 9 14 20 7	w. nw. w. nw. nw. nw.	P. H. Holm. G. A. Sawyer. H. H. Haight. U. S. Engineer Corps. P. C. Myers. M. P. Mann. W. C. Rowell.
South Dakota. Milbank	Grant	1,148 1,202	22 7	52.8 54.2	- 3.0	92 88a	27 27†	24 34*	1 1+	40 36b	3.97 2.42	+ 0.65	1. 13 1. 10	0	12 6	11 13	7 4	13 14	nw.	Miss Mary Patridge. George Gray.
Wisconsin.		,					-													
natigo Barron Seloit. Sermain Dam Strothead Surnett. Sornell Oottage Grove Darlington. Seerskin Dam Selavan. Dodgeville Downing Sau Claire Ilen Flora Ilen Flora Ilen Grand Rapids Irantsburg Iancock Iatfield Iatyward Illisboro. Goepenick A. Crosse Aske Mills Ancaster Ong Lake Madison. Marshfield Mather. Marshfield Mather. Masthon Meadow Valley Medford Merrill Minoequa Mondovi Mount Horeb Muscoda Veillsville New Richmond Secola Park Falls Fort Edwards Prairie du Chien Prairie du Sae Prentice Nest Lake Hullsburg Hullsbu	Green Dodge Chippewa Dane Lafayette Forest. Walworth Iowa Dunn Eau Claire Rusk. Wood Burnett. Waushara Jackson Sawyer Vernon Langlade La Crosse Jefferson Grant Oneida Dane Wood	1, 489 1, 115 750 1, 590 1, 590 993 888 887 1, 685 920 1, 220 1, 220 1, 475 1, 091 1, 091 1, 683 714 1, 070 1, 597 1, 070 1, 276 982 882 991 1, 267 1, 267 1, 267 1, 267 1, 268 1, 226 666 996 990 806 1, 492 809 990 962 809 91 1, 600 1, 555 1, 600 1, 555 1, 600 1, 555 1, 600 1, 555 1, 600 1, 552 1, 411 1, 082 1, 116 1, 625 1, 451 1, 400 1, 625 1, 451 1, 400 1, 625 1, 412 1, 704 864 864 1, 212	199 222 477 3 3 222 213 111 144 22 221 1 1 122 222 222 222 224 4 0 9 9 17 7 7 9 5 5 9 4 4 23 3 22 22 24 4 20 2 2 24 5 5 15 0 0 7 7 7 7 7 19 9 9 2 0 3 3 0 0 1 1 3 21 23 5 5 22 2 22 218 111 22	50.5 5.2 2 54.2 57.6 6 56.3 56.2 8 56.2 8 56.2 8 56.2 8 56.2 8 56.2 8 56.2 8 56.2 8 56.2 8 56.2 8 56.2 8 56.3 6 56.5 6 56	- 0.1 - 1.1 - 0.7 - 1.3 - 2.1 - 1.0 - 2.0 - 1.3 - 0.2 - 4.4 - 0.9 - 1.9 - 0.7 - 1.3 - 1.0 - 0.4 - 0.9 - 1.3 - 1.0 - 0.4 - 0.9 - 1.3 - 0.6 - 0.5 - 0.6	836 83 84 85 85 85 86 87 83 86 88 88 89 90 88 87 85 88 88 88 88 88 88 88 88 88 88 88 88	28 28 1 28 29 1 1 28 1 1 28 1 1 28 1 1 28 1 1 28 1 1 28 1 1 1 28 28 28 1 1 1 1	274 243 283 285 286 277 200 300 211 266 300 262 282 282 282 283 383 297 277 277 277 283 298 311 299 288 310 291 244 382 288 310 299 288 311 299 288 311 299 288 310 298 311 299 288 310 298 311 299 200 212 222 233 333 228 230 242 252 252 252 253 252 252 253 252 253 252 253 252 253 253	10 10 10 10 10 10 10 10 10 10 10 10 10 1	42 37 37 39 42 45 38 42 48 42 41 39 47 43 38 35 34 44 43 46 29 41 41 41 41 41 41 41 41 41 41 41 41 41	6.12.36.77 5.819 6.344 6.385 7.333 6.75 7.55 7.56 7.57 7.57 7.58	+ 1. 35 + 2. 54 + 3. 00 + 1. 48 - 2. 15 - 0. 36 + 4. 29 + 0. 27 + 3. 41 + 1. 39 + 1. 85 + 2. 90 + 3. 64 + 3. 01 - 2. 19 + 3. 49 + 2. 19 + 3. 49 + 4. 49 + 5. 49 + 5. 49 + 5. 49 + 6. 5. 49 + 7. 40 + 7. 40 + 7. 40 + 7. 40 + 7. 40 + 7. 40 + 7	1. 10 1. 20 1. 180 1. 141 1. 100 1. 180 1. 141 1. 100 1. 180 1. 1	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	12 14 13 13 14 14 9 9 11 1 11 13 15 14 11 11 12 12 12 12 12 15 11 11 11 11 17 7 6 11 11 11 17 7 6 11 11 15 9 14 14 14 14 14 14 14 14 14 14 14 14 14	188 11 13 11 15 4 4 11 11 14 16 8 10 10 10 10 10 11 11 11 11 11 11 11 11	16 16 16 16 16 16 16 17 17 18 18 18 18 18 18 18 18 18 18 18 18 18	134 866 1210 9510 1014 123 9510 107 1515	W. Se. S.	Elton C. Larzelere. Wm. A. Kent. Smith Observatory. Fred Hessen. Hector D. Kirkpatrick. George W. Smith. Brunet Falls Mfg. Co. John E. Mellish Sever P. Nelson. Wm. E. O'Neal. Elwood S. Austin. Chas. H. Berryman. Eugene F. Stoddard. Robert D. Whitford. G. A. Durgin. Geo. T. Nixon. Chester Ahlstrom. Frederick B. Hamilton. Wis. Ry., Light & Pow. Co. A. E. Johnson. Emil V. Wernick Edward S. Koepenick. U. S. Weather Bureau. S. Newton Dexter Smith. Edward Pollock. Louis Frank. U. S. Weather Bureau. Agr. Exper. Station. Frank Evans. Eugene L. Hitchcock. Charles H. Johnson. Wm. Zeit. O. F. Lueck. Benjamin W. Applebee. Dr. Chas. Hebard. W. M. Lewis. Wm. Hessier. Wm. Hessier. Wm. Hessier. Wm. Hessier. Flambeau Paper Co. James A. R. Van Meter. Charles W. Staples. Flambeau Paper Co. James A. Gillis. Wis. River Power Co. Joseph G. Lash. A. F. Miller. Rhinelander Power Co. Joseph G. Lash. A. F. Miller. Rhinelander Power Co. Harrison B. Chamberlin. John M. Sayles. Horstmaster. Lyman Haskins. Victor Extrom. F. B. Moody. Albert D. Hansen. J. J. Donahue. Henry E. Rogers. Louis L. Thomas Charles J. Salick. Carroll College. A. A. Babcock, Jr.

Table 1.—Climatological data for May, 1913. District No. 5—Continued.

			years.	Tem	peratur	e, in	degre	es Fah	renh	neit.	rec	cipitation	, in in		days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	vind n.	Observers.
Iowa.	Monroe	959	15	62.1	+ 1.1	92	29	36	11	39	5.82	+ 1.49	1.05	0	14	14	2	15	e.	J. I. Chenoweth.
lgonalta	Kossuth Buena Vista	1,213 1,513	39 22	57.6 57.4	- 1.9 - 0.6	91 94	29 29	37 36	10 10	39 33 33	9.04 6.84	+5.36 + 2.06	2.00 2.15	0	12 12	10 8	6	15 12	nw. se.	Dr. F. T. Seeley. David E. Hadden.
manames	Story	721 926	37 37	60.7 59.8	$^{+\ 0.7}_{+\ 0.3}$	89 94	29 29	35 36	11 6	39	7.22	+3.42	1.77 2.02	0	15 13	10	11	10 13	s. nw.	C. Schadt. Iowa State College.
axterelle Piaine	Benton	886	13 23	59.2 59.2	-1.2 - 0.3	92 90	30 29	34 36	11 6†	37 37	5.55 7.11	+0.35 + 2.45	1.22	0	18 13	15 11	8	11	SW. 8.	W. R. Vandike. O. C. Burrows.
elmondloomfield	Davis	881	6	57.1 62.2		90 91	28†	36 32	6	35	6.39 5.32		1.27	0	11 15	19	10	17	nw.	Geo. P. Hardwick. Albert Power.
onaparte	Van Buren Boone		22	62.1 59.0	- 0.2	88 93	301	36 37	11 6	33	5.67	+ 1.64	2.40 1.02	0	15 13	10	8	13		B. R. Vale. C. F. Henning.
ritturlington	Hancock	1,236	16	62.4	- 1.5 - 1.4	90	30† 29 29 28 29 28	35 35	6	39 37 41	10.25 4.22	+5.99	1.78	0	16 12	12	4 2	15 15	S. S.	L. M. Goodman. Max. E. Poppe, jr.
rrolldar Rapids	Carroll	1,265	23 31	57.8 60.2	- 1.1	94	29	36	6†	35	7.63	+ 3.07	2.11	0	12	9	4	18	se.	Mrs. Jos. J. Wolfe.
narles Cityear Lake	Floyd	1,015	22	56.5	$^{+\ 0.2}_{-\ 3.0}$	92 89	29	36 35	6	44 38	5.55		0.95 1.10	0	11 13	7	5	19	e. nw.	R. S. Toogood. U. S. Weather Bureau
inton	Clinton	593	15 46	61.2	+ 1.0	92	28	34	11	38	7.07	+ 3.01	1.82	0	14	12	10	9	sw.	A. E. Reld.
dumbus Junction	Scott	-580	12 42	61.6	- 0.6 - 0.6	87 88	28†	35 35	11	31 31	5.74 4.89	+ 1.86 + 0.70 + 1.00	1.70	0	13 16	17	11	10°	sw. e.	J. B. Johnston. U. S. Weather Bureau
ecorahelaware	Delaware	1.083	20 22 35	56.0	$+0.6 \\ -2.3$	96 86	29 28 28 29 28 29 28	33 32	10	43 31	5.67 7.67	+ 1.00	0 98 1.43	0	12 12	8	12	11	sw.	F. H. Baker. Nettie E. Ball.
s Moines abuque	Dubuque	861	35	61.3 59.2	-0.3 -1.6	96 88	29	41 37	11 10	34 33 37	5.06 8.20	+ 3.48 + 0.50 + 3.88 + 1.14	1.62 2.13	0	16 13	7 5	11	13 14	SW.	U. S. Weather Bureau Do.
rlhamkader	Madison		11 34	59.4 57.5		95 90	29	35 32	6† 11	37 32	5.91	+1.14 + 1.99	1.65 2.10	0	14 11	9 15	8	14 13	se. se.	George Phillips. Chas. Reinecke.
matherville	Howard	1,182	3 18	55.2 54.8		89 90	28 29	30 34	10	41 36	5.48 5.17		1.05	0	14	10		10	nw. se.	H. A. Moore. A. O. Peterson.
drfield	Jefferson	780	29	61.6	+ 1.4	86	29	36	11	32		+ 0.37	1.28	0	13	15	7	9	w.	R. M. McKenzie. R. Z. Latimer.
rest City rt Dodge	Winnebago	1,226	19	56.5		88	29	37	6†		7.36	+ 2.97	2.20	0	11	13	6	12	se.	J. A .Peters.
rt Madison	Lee	516	13 64	38.2	- 1.8	95	29	39	6†	34	6.04	+ 1.36 + 1.64	1.40 1.50	0	8	4	9	18	sw.	J. F. Monk. Miss L. A. McCready.
manand Meadow	Clayton	1,180	14 22	56.8	- 1.3	85	28	33	10	31	6.41	+1.09 + 1.55	0.89 1.65	0	14	7	11	13	sw.	J. L. Wylie. F. L. Williams.
innellundy Center	Grundy	976	22 21 22	59.5	+ 1.1 + 1.0	91 91	29	36 35	11 11†	34 35	5.28 6.40	$+0.69 \\ +1.24$	1.40	0	15 13	16 12	5 9	10 10	w. nw.	D. W. Brainard. J. B. Calderwood.
thrie Center mpton	Guthrie	1,077 1,155	18 23	60.6 57.8	- 0.5	95 90	29 28†	35 35	6 11	37 37	6.11	+1.15 + 3.46	1.88	0	15 11	13	6 12	12 11	nw.	D. G. Beardsley. E. C. Grenelle.
ımboldtdependence	Humboldt	1.095	23 25 49	57.1	-2.3 -0.8	91 86	29 28†	31 33	111	43	5.56	+1.20 + 2.05	1.57	0	13 13	11 16	8	12 11	e. nw.	J. P. Peterson. R. E. Dudley.
dianola	Warren	060	22 53	61.1	+ 0.4	93 88	29 28†	39 31	11 11 10	33 31 39	5.64	+ 1.00 + 2.54	1.32	0	15 14	8	9	14	sw.	Prof. J. L. Tilton. Prof. A. G. Smith.
wa Citywa Fallsfferson	Hardin	1,170	20	56.6	- 2.1	90	29	35 39	6	39 37	6.06	+ 1.86	1.32	0	11	14	3	14	nw.	J. D. Parmelee. Ora M. Hall.
okuk	Lee	614	14 42	63.4	+ 0.2	93 90	29 31	36	11	32	3.87	+ 3.72	1.55 1.46	0	17 13	11	9	14 11	se. s.	U. S. Weather Bureau
osauqua	Marion	920	21 18	61.6	- 1.0	89	29†	37	11	40		+ 0.56	1.07	0	14					J. H. Landes. Casey and Belville.
cona	Allamakee	632	14	58.6		87	1†	32	10	40	4. 01 6. 15		0.66 1.55	0	13	7	19	5	w.	J. B. Alter. Chas. R. Serene
Clairearshalltown	Scott	576 947	13 21	60.3	+ 0.6	94	29	36	ii	36		+ 1.82	1.50 1.75	0	17 18	8	7	16	se.	Miss M. T. Disney. Jacob Eige.
son City	Cerro Gordo	1, 132	16		- 1.0	94	30 29	32 36	10 11	40 36	6. 26 6. 51	+ 1.60	1.13 1.60	0	10 15	9	11 6	11	nw.	Dr. Roy Desart. J. A. Dibel.
ount Pleasant	Henry	729 554	32 53	62.2	0.0	86	28†	35	11	31	6.51	+ 2.33 + 2.05	2. 19 1. 23	0	15 15	15	6	10	sw.	J. W. Edwards. William Molis.
w Hampton ora Springs	Chickasaw	1, 169	16	56.6	- 1.3	88 90	28 29	35 35	11 6†		5, 53	+0.89	1.05	0	12 15	15 12	3 10	13 9	S. S.	A. F. Kemman. Arthur Betts.
orthwoodin	Worth		17	55.6	-2.3	90	29	33	10	38	6.93	+ 1.95	1.35	0	15	9	3	19	SW.	Chas . H. Dwelle.
820	Jones	1, 184	15 26	57.1	- 0.1 0.0	88 90	28 29	32 33	11 10	35 38 35	8.29 7.18	+ 3.80 + 2.42 + 1.27	2.05 1.35	0	13 10	11 13	12	8 12	nw.	Dr. F. W. Port. Lester Coonradt.
kaloosatumwa	Wapello	843 649	37 18	58.8 61.7	- 1.6 - 1.3 - 0.7	89 94	29 29 30	36 35	11 11	35 38 36	6.61	+ 1.97	1.61	0	14 11	14 12	6 9	11 10	sw. nw.	Joseph Boyd. Chester Potter.
lla	Dallas	877 975	11 12	60.6	- 0.7 - 1.3	91 93	29 29	36 37	6	36 40	7.84 6.45	+3.52 + 1.45	1.55	0	17	19	0 11	12 10	se. nw.	J. H. Ver Steeg. S. J. Brumfield.
cahontasckwell City	Calhoun	1,248	17	56.2	- 3.3	96	29	37	9	38	9.45	+ 4.71	1.65		13	10	4	17		F. E. Hronek. C. M. Randall.
CityCharles		1,278 1,070	37 12	58.8	-3.3 + 0.2 - 0.6	92 92	29 29 29 29 28† 29 28† 29 29	36	9 6 11	38 35 33	7.75 6.06	+ 4.71 + 3.52 + 1.14	2.07 1.25	0	14 15	9 15	12	10 12	se. nw.	E. N. Baily. R. D. Minard.
ourney	Keokuk. Van Buren	877 745	17	60.4 61.4	- 0.6 - 2.6	92 91 87	29	35 35	11	33 45 33 33 41 35	5.95	+1.82 + 1.51	1.75	0	12 13	17	6	8	w. nw.	J. T. Parker. C. L. Beswick.
rm Lake	Buena Vista Cedar	1,440 807	24 14	1 58.8	+ 1.2 + 1.7	87 95	29	37	10	33	7.06	+ 3.18 + 2.82	1.13	0	11 13	12	9	10	n. w.	Chauncy Case. F. K. Gregg.
edo	Tama	856	19	60.2	- 0.5	88 89	29	35	10	35	5.45	+ 1.26	1.35	0	13	17	3	11	se.	I. F. Giger.
shington	Washington Black Hawk	769 862	31 30	58.0	$\begin{array}{c} + 0.5 \\ - 0.5 \\ + 0.4 \\ - 1.5 \\ - 0.3 \\ - 3.0 \end{array}$	89 87	28†	38 35 37 37 37 35 36 34 37 33	9	33 41	6.91	+ 1.99 + 2.95	1.11	0	12 11	18	11 2 5	11	sw.	Wm. A. Cook. Ralph B. Slippy.
wkee	Dallas	1,039 948	10 17	57.0	-0.3 -3.0	92 90	28† 29 29 29	37	6 7 3	32 42	7.56	-0.31 + 2.86	1. 19 1. 60	0	15	16	10	10 13	SW.	Samuel F. Foft. Earl C. Moore.
ebster Cityest End	Hamilton	1, 197	8 20			93 90	29	34 34	6	40 34	4.99 6.98	+ 3.35	0.93 1.90	0	11 13	13 12	9 8	9	nw.	C. D. Carpenter. Phil Dorweller.
niftennitren	Hardin Madison	1,036 1,129	16 22	59.4 61.7	$ \begin{array}{c} -1.2 \\ +0.1 \\ +0.5 \end{array} $	90 96	29 29	34 39	7 6	33	6.24	+ 1.88 + 1.82	1.27 1.52	0	12 14	14	7 6	10 16	se. s.	Dr. F. P. Butler. Dr. R. S. Cooper.
Missouri.		,																		
rin	Scotland	700	27	64.0		02				20	4.93	+ 0.47	1.78	0	13	5	11	15	sw.	Mr. J. W. Pullia m
nnibal uisiana	Marion Pike	534 500	22 36	64.2	+ 0.4 + 0.3	93 95	29 29	33	777	36 45	0.88	- 3.84 - 3.59	0.49	0	7	13 20	7 7	11 4	sw. n.	U. S. Weather Bureau. J. T. Farrel.
xico	Macon	881 797	1 36	65.9 64.8	+ 0.6	93 98	31	38	10 7†	35 42	1.74	- 3.05	0.63 0.48	0	9	12 12	8	11 16	90. S.	John A. Cook. J. F. Llewellyn.
myraffenville	Marion Lewis	617 576	20	65.8	+ 1.8	94	31	33 38 38 38 38	10†	41 46	2.03 4.12	- 1.16	0.55	0	8 10	16 12	6 8	9	sw.	W. B. Markell. Frank Hall.
olett	Adair	1,000	34	63.2	+ 0.6	90 96	30† 31	36	13	40	9.12	+ 5.58	2.10 0.32	0	7	11 16	13	7	SW.	Lewis Spriggs. C. B. Ellis.
rrenton	Warren	865	24	66.3	+ 1.7	97	31	40		40	0.95	- 3.96	0.35	0	8	8	8	12 17	S.	Prof. J. H. Frick.

TABLE 1.—Climatological data for May, 1913. District No. 5—Continued.

			years.	Tem	perature	, in	degre	es Fal	hrenl	heit.	Pre	cipitation	ı, in in	ches.	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, y	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy d 0.01 inch or mor	Number of clear days.	Number of part- ly cloudy days.	cloudy days.	Prevailing wind d	Observers.
Indiana.											711 7								100	
Collegeville Knox Laporte Plymouth South Bend Illinois.	Jasper Starke Laporte Marshall St. Joseph	716 810 790 726	14 8 17 10 20	60. 5 60. 6 58. 4 58. 9 59. 6	- 0.6 + 0.1	86 83 86 83 84	4 2† 2 2 2	27 28 28 29 30	10 11 10† 11 10	42 38 40 35 32	6. 67 5. 82 4. 38 5. 57 5. 61	+ 2.40 + 0.27 + 1.81	2.17 2.37 2.20 2.00 2.13	0 0 0 0	8 13 13 11 14	15 15 12 13 12	7 13 10 15 14	9 3 9 3 5	sw. nw. sw. sw.	Otto Miller. W. R. R. Tatman. Wm. M. Walton, jr. J. W. Siders. Henry H. Swaim.
Aledo Alexander Antioch Astoria Aurora Beardstown Bement Bloomington Cairo Camp Point Carbondale Carlyile Carlyile Carlyile Cobden Dakota Decatur Dixon Duquoin Dwight East St. Louis Edwardsville Elgin Ewing Fairview Galva Grafron Greenville Griggsville Havana Henry Hillsboro Joliet La Harpe Lanark La Salle Lincoln Macomb Mantemo Martinton Masouttah Minonk Morrison Morri	Mercer. Morgan Lake Fulton Kane Cass Piatt McLean Alexander Adams. Jackson Macoupin Clinton Randolph Dewitt Union Stephenson Macon Lee Perry Livingston St. Clair Madison Kane Franklin Fulton Henry Jersey Bond Pike Mason Marshall Montgomery Will Winnebago Cook Hancock Carroll Lasalle Logan McDonough Kankakee Iriquois St. Clair Woodford Winnebago Cook Lasalle Logan McDonough Kankakee Iriquois St. Clair Woodford Warren Grundy Whiteside Christian Jefferson Washington Ogle Lasalle Christian Lee Peoria Livingston Adams McHenry Ford Winnebago Schuyler Kane Fayette Randolph Sangamon Lasalle Randolph Sangamon Lasalle Randolph Sangamon Lasalle Moultrie Dekalb Bureau do Hancock Monroe Greene Shelby	738 670 861 650 678 448 700 863 440 840 359 732 663 470 380 727 656 929 685 725 656 929 685 725 656 677 675 686 883 536 657 675 687 687 687 687 687 687 687 687 687 687	13 200 12 14 34 6 22 14 10 0 8 22 23 25 20 2 2 14 6 1 2 21 22 25 25 20 2 2 14 6 1 2 21 22 25 25 20 2 2 19 14 19 13 14 4 7 27 1 57 11 7 54 2 21 22 28 11 1 27 7 33 32 20 13 33 32 22 2 15 14	64. 44 63. 4 68. 4 67. 2 63. 0 67. 9 67. 9 67. 6 60. 7 67. 3 65. 0 60. 7 63. 4 65. 0 65. 8 66. 8	+ 0.1 + 0.4 - 0.3 - 0.6 - 0.6 - 0.9 + 1.6 - 0.2 + 0.9 + 1.3 - 0.2 + 0.3 - 0.6 - 0.8 - 0.8 - 0.1 + 0.4 + 1.1 - 0.9 - 0.8 - 0.9 - 0.8 - 0.9 - 0.8 - 0.9 - 0.8 - 0.9 - 0.9	87 94 85 90 84 90 96 87 96 97 96 88 99 99 99 99 99 99 99 99 99	31 31 31 31 31 31 31 31 31 31 32 32 32 32 32 32 32 32 32 32 32 32 32	34 34 38 33 32 39 36 38 32 39 39 30 31 35 31 35 31 36 32 29 29 30 30 31 35 35 31 35 36 30 37 40 30 32 29 29 30 30 31 35 35 31 35 35 31 35 35 35 35 35 35 35 35 35 35 35 35 35	10† 10† 111 11 10 11 11 10 11 11 10 10 11 10 10	39 35° 43 35° 39 40 37 35 38 36 34 44 44 45 40 39 35 38 36 37 38 36 37 38 36 37 38 38 38 38 38 38 38 38 38 38	0.588 2.103 2.123 2.123 2.123 2.123 2.123 2.123 2.123 2.123 2.124 2.124 2.124 2.125	+ 1. 43 - 3. 40 + 1. 44 + 1. 43 - 3. 00 - 1. 62 - 2. 96 - 2. 97 - 2. 04 - 2. 47 - 2. 82 + 0. 47 - 2. 43 + 2. 28 - 1. 54 - 3. 20 - 3. 40 - 3. 40 - 1. 79 - 0. 10 - 2. 99 + 1. 43 + 1. 44 - 1. 60 - 2. 42 - 3. 48 - 1. 79 - 1. 10 - 2. 42 - 3. 48 - 1. 79 - 1. 10 - 3. 40 - 1. 10 - 3. 40 - 1. 10 - 1	0.56 2.00 1.56 0.42 1.33 0.53 1.91 0.49 1.65 0.89 1.48 0.72 2.64		14 6 9 8 8 13 5 3 6 4 9 8 8 5 3 3 10 7 5 5 7 5 10 11 15 5 5 7 5 10 12 13 8 13 8 15 5 7 5 10 12 18 8 13 8 15 5 7 5 10 5 8 14 14 18 9 9	11 10 8 12 19 11 18 10 11 11 11 11 11 11 11 11 11 11 11 11	10 10 11 18 6 6	10 111 12 111 6 7 7 8 10 10 10 10 10 10 10 10 10 10 11 11 10 10		William B. Frew. George H. Hall. J. C. James. Edward V. Bohl. Miss Alice M. Holden. Mrs. L. M. Rice. N. N. Stevenson. Prof. H. N. Pearce. U. S. Weather Bureau. Capt. D. M. Morris. State Normal University. Blackburn College. Hervey O. Jones. Charles S. Gollon. J. Frank Ziegler. John Buck. Elmer G. Smith. Prof. J. H. Coonradt. H. U. Bardwell. G. H. Knetzger. Edward O. Welch. W. McK. Brown. W. H. Morgan. Elgin Observatory. Ewing College. Abram Wilson. Prof. F. U. White. R. C. Goodrich. H. W. Reidemann. George F. Kneeland. L. L. Eutenener. Dr. F. A. Powell. Ira L. Woodward. F. M. Muhlig. George Stevens. Prof. F. E. Sanford. George E. Campbell. M. N. Wertz. U. S. Weather Bureau. Prof. C. S. Oglevee. State Normal University. J. F. Schmeitzer. Joseph H. Peltier. Dr. J. C. Hutchinson. E. G. Cryder. S. A. Maxwell. J. D. Lowis. Theodore P. Stelle. H. M. Potter. Samuel Ray. Miss Maude M. Harris. Dr. G. N. Gilbert. A. C. McBride. U. S. Weather Bureau. George Butterworth. Fred Brinkoetter. John West James. R. E. Bradbury. Dr. John R. Porter. H. F. Dyson. Dr. William H. Bishop. M. L. Lausford. James A. Caldwell. U. S. Weather Bureau. Miss Lora Sweetser. C. A. Corbin. George E. Valentine. F. I. Smucker. O. C. Nussle. W. R. Kirkbride. Prof. James E. Raibourn. Frank Dillman.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

Table 2.—Daily precipitation for May, 1913. District No. 5, Upper Mississippi Valley.

Stations.	Weter														1	Day	of m	onth															
stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
North Dakota.																																-	-
nenia				. 22												. 23	.12				. 38	T.		T.							T.		
ttineauwbells	Mousedo			. 02	T.		. 01					02	. 12		90	. 24	.12	T.	T.		. 20	. 15	T.	. 10			. 02	2	.07	. 02		. 04	i
ndo	Shevenne			1 09	14						1 04	00	Į.	1	0.7				. 10	. 10	. 24	. 10		45	****			****	. 65	18	****	98	1
osby	Mouse		. 06									. 37			. 34	. 10	. 14		T.	. 12	. 19				T.	. 15	1	1		T		07	1
osbyovils Lak9onnybrook	Mouse		.01	T.	T	T.		T			. 03	12			. 02	. 07		T.											. 27	. 08		. 26	0
inseith	do			. 02	T.	T.	. 02				T.	. 10	. 02		. 04	. 06	T.	.10		T.	. 30	.01		. 56					14	Öi		. 65	1
kmanssenden																					****										1		
man	James Sheyenne	17	08	T.	T.		T.	03	T.			T.			36	. 05	. 03	. 01		20	. 25	. 03		. 25						. 34			(
afton	Ked			. 30	N		. 03		. 06	1		.02				05				. 20	. 00	. 68		. 10	****	****	. 01	****	. 03	. 82	****	. 83	F
nvillennah	Mouse																																L
asboro	Red						****	****			T.		T.			25	. 31	. 02			. 05		17	. 03				90	. 06				
sboro	do		. 11	. 06									T.		. 11	. 14		.01			.17	. 04		. 18						.38		.20	
otagdon	Sheyenne		. 10					. 15				. 03				. 05		. 10			. 03			. 13					. 37			.35	
imore	Pembina	****		.33		. 13		****			****					08	23		05		05	04								21	97	.05	
on		. 09	T.	. 24												. 50		. 25	. 37	. 05	. 80	. 02		15							T		1
eod	Mouse						Inna.			1					. 311	4		78	****	****		. 55	.15		T.				T.	1			
fred	do		F\$13	T.	T.		T.				T.				.10	T.		. 50		. 22	. 22	. 02		. 20			. 41					1.93	1
ville	Red			. 21		***									. 10	. 31	. 04				. 12	02		. 23					. 15		. 50	. 13	
ort.	Mouse	. 14	- 14	. 05				. 07	T			. 16	06		. 30	. 04		. 42	01	. 15	. 43			. 11								. 67	1
0	Red		. 09	. 23		. 08		. 08			. 03		. 02		.10	.04	.03	. 05	·UI		. 02	. 09		1.					.30				
ka	Reddo Mouse Red Sheyenne		. 15		. 03										T.	. 44	. 03	. 03			. 40	. 01		. 15					T.	. 01		. 18	į.
Riverbina	Reddo Sheyenne	****	. 05	.05		****			****		. 02		. 02 T		.01	. 02 T	T		****		. 05	. 05		. 01	****	****		****	1.12	. 52		. 15	
er	Sheyenne	. 26			T.							T.			. 26	. 36		T.	. 54	T.		. 20					T.		. 10	.39		. 21	1
ner	MUUSO		10	. 09	70	T.	10		****		. 02	. 02			.18	. 10				. 34				. 20					. 20		T.	. 24	
peton	do	. 10	. 03	. 18	T.	1.	. 10		. 10			****	T.		.07	. 10	.00		T		60	.06		.03	****		T.		T.	. 23	T.	. 43	
lhalla	Pembina																																
thopeow City	Mousedo			т.	T.	. 01		****				. 21	. 07		. 24	. 75		. 03			. 42			. 04					. 10				Г
ow City	do			1.	T.					****	. 03	. 10			.01			. 08		. 02	. 30	. 05						. 02	Т.			. 55	
Minnesota.																																	l
rt Lea	Mississippi		. 25	1. 25				T.						80	. 30	75	1 00			. 80			60				10						
andria	do		. 75	. 14				. 12	15				08			1.78	. 12	. 03		.00	1.05	. 34	.00				. 10			. 03	****		1
18	Red		. 18		. 06	. 07		. 15					T.		. 22		T.				. 04	. 03							. 03			. 40	
eydette		03	04	23	06			23	****		****	01		****	****	15	03	05			T	93			99	****		****					1
dsley	Minnesota	. 14	. 38	.12								T.		. 09	. 99	. 39	. 09	. 12		. 88	. 97	.12		T.		T.	T.		T.	. 00		. 22	
idji Island	Mississippi Minnesota	. 31	. 33			10						****	× UO		. 40	. 34							. 35									. 11	L
nerd	Mississippi	no	T.	0.4			1	10						. 10	. 27	. 48	.03	.05		. 59	. 38	25		T.	****	T.	. 16		06			T.	
ionia	do		. 20	. 10	. 63	. 16			. 31	T.			T.		. 65	. 44		. 15			. 41	. 80		T.			. 34		. 67				
pbell Lake	Red Mississippi	. 21	. 20	. 50	, 06	****		. 15	T.		****		. 07			. 92	. 30	. 28	T.		. 77	. 10		. 05							.12		
geville	do	. 04	. 22	.17	T.			. 33					. 16		.32	1. 33	. 12	. 46		.17	71	. 19			. 21	****		****	.02	****	. 38		-
kston				. 21		. 03	. 05						T.		.32	. 38	. 25				. 08	. 02		. 03						T.			1
oit	Rainy	. 28	. 05	. 35	T.			T.	****				. 25	T.		. 55	. 35				. 50	. 30								T.	T.		-
Cunner America																		T.		. 66	.16	****	. 21								T	T.	1.
bault	Mississippi																																
nington	do	T.	43	16				. 02	. 01			21		. 15	62	. 87	. 25	. 15		. 12	. 36	. 05	T.				. 10			73			
Ripley	Mississippi		. 25	. 21				T.	. 31			. 01	. 22			1. 10	. 33	. 10		.02	. 40	. 54					****			T.	****	. 00	
bault	Red	. 03	. 30	. 29	. 03	. 01							. 01		. 11	. 12	. 09	. 03			. 13	. 04										. 20	
Lake Dam	do	. 04	. 64	. 05		. 15		. 19	T.				.47		. 45	. 67	. 09	. 01		. 40	. 38	. 57	1.	1.	. 06	. 01	. 40		.01	1.	1.	1.	
ck	Red		. 05				. 04				T.		. 10		. 01	. 25		. 02				. 06							. 05	.17	T.	. 40	
adkley	St. Croix			. 24				.14					. 05			95	27		05		. 21	. 04		. 18							. 06		
national Falls.	dododododost. CroixRainyMississippiMinnesotaMississippidodo		. 10	. 71		.17		. 65	. 10				. 25	. 03		. 68						. 55								1. 49	****		I
State Park Crystal	Mississippi	. 08	. 33	. 21				.01	14				. 04	07	. 17	. 54	. 05			20	. 33	. 25		. 01								. 06	l
Lake Dam	Mississippi	.09	. 34	.30		. 03	****	. 02	. 13			• • • • •	.32	.91	. 42	1.06	. 06	.15		. 39	62	. 55			04	. 15	. 35			10		06	
Falls	do																																
fork Prairie	Mississinni	10	. 10	. 86	. 05	.15	. 33	40		• • • • •	• • • •	05	. 30	. 05	95	. 48	25	. 03	10	05	90	. 07			. 05			. 32		. 05			
*************	Minnesota	. 04	. 05	T.	. 24				. 06			.00	. 10	. 30	. 30	. 31	T.		. 10	1. 32	. 57	. 00			.30	.30	. 05		. 10	****		****	
ato	Mississippi Mississippi Minnesota do Mississippi			1.60					. 13				. 01	. 11	. 79	. 70		. 10		. 02	. 63	. 10				. 13	. 34						
	Mississippi Minnesota Mississippi Minnesota Red St. Croix Minnesota	.03	. 55	.02			****	. 40				T		03	22	78	01	03		73	56	T			T	10			m			. 22	
eapolis	Mississippi	. 02	.61	. 02				. 20				.09		. 02	. 86	. 21	. 04	.01		.27	. 45	.03	T.			. 03	T.		T.			T.	
evideohead	Minnesota	.06	.26	.02				. 07	. 23				. 05	T.	T.	. 85	. 05	.04	. 02	. 18	. 90	. 29	T. .		. 05	. 18	. 15			. 01		T.	
icini	St. Croix	T.	.01	. 40		****		. 33	. 05			.04	.14	••••	. 09	1.11	. 40	.05		. 10	. 19 .	.24		. 05	02				10			. 20	
S	Minnesota	.08	.94					. 22				. 10		.06	.78	.34	. 12	. 14		. 62	. 97					.04			.04			.30	
London Richland	Mississippi Minnesota	.03	. 05	.08	. 17			. 12	15			Т.			.78 1.10	70	. 23	. 42	.38	. 27	2528			- 1	. 1				1				
Ulm	do	. 11	T.	. 81				1.	. 13	••••	****		05	. 59	. 10	. 76	. 11	.07		. 51												T.	
Ulm	Mississippi	. 05	. 66	. 02				. 28	T.			. 05	. 10		.39	. 68	. 15	. 03		. 15	. 94	. 16				. 20	.20		. 05				
Napius		. 10		. 10	. 01				. 121				- 77.7		1	4.53	- 25/81			. TE21	44.7	3576	011		- 1					614			
River Dam	do	T.	. 45			. 10		. 07					. 40		T. . 53	.85		T		2	. 67	45				• • • •				19			
gama Falls Lake	do	.01	. 29	. 24		. 13		.06					. 25			. 47	. 09	. 10			. 51	. 68	.01		. 15					. 18		.01	ŀ
Lake Falls II	Red		. 35	. 24	T.	T.						T.	T.		T.	.20	. 06	T. .			T. .			T.]						. 20			
Lake Falls Wing	Mississippi		.08	. 44	.02				.12		****					***			***	****		-22											
ood Falls	Minnesota	.21		. 39				. 17	. 35				. 05	.22	. 26	.50	. 03		. 02	.98	. 25	. 13		.03	.26		. 70		****				6
wing rood Falls s Landing ester wi harles oud	Mississippi			.24	. 44				. 10						. 44	.74		.57			. 65	. 35 .			.08		. 44						,
MI	Red.			.34	.07			.12	. 13				.08		. 45	. 98	. 03	. 48 .			. 60	. 45 .	***				. 36					.25	
	201 1 1 1																												63.51				

Table 2.—Daily precipitation for May, 1913. District No. 5—Continued.

Stations.	Watershed.		1	_	1	1	1	1			1	1	1	1		.,	of me						1				Sich	nia V	1		Smoot)	nan.	-
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Minnesota—Contd.					*								1			-17								1						Simi	(i) sta	1	-
t. Paul	Mississippi.	.01	. 46	0	3			. 18				. 13		. 05	. 89	.31	. 10	. 03		. 28	. 33	. 04	T.			.08	. 03	Lio	T.			55.4	2
t. Peter	Minnesota			. 4	0				. 15				. 05	. 65	. 25	.65	. 10	.20			. 13	. 08			. 03								3
andy Lake Dam ate Sanatorium	Mississippido	iii	.75	. 1	2	T.	5	.07					.31		. 12	1.30	.08	. 15			. 75	. 44	.02 T.	T.		••••				T.		T.	3.
llwater	St. Croix			.5	5 T.			. 07	. 13				. 10			1.27	T.	. 27			: 65	. 30					T.						3.
ylors Fallsief River Falls	do	T.		.6	0			. 15					. 10	••••		1. 18	.05	. 12	••••	. 02	. 88	. 22	••••	. 10		••••			. 14	••••	••••	••••	3.
cv	Minnesota																																
rren	Red Rainy		35	.1	0 .20	T.		. 45	• • • • •			T.		T.	T.	.20					T.	••••		.20		.05			.04			. 75	1. 2.
nnebago	Minnesota		T.	1.1	0 T.	T.			T.						. 44	. 50		. 40	T.	. 01	. 60	. 15				.20	. 35	.02					4.
nnibigoshish	Mississippido		. 25	.1				.01	T.				.30		. 25	. 85 1. 06		60		. 18	. 45	.52	T.	T.	. 18	••••	.54	.09		.35 T.		. 12	
rthington	Des Moines .	T.	. 37	.4	7				. 18 T.				T.	. 80	. 48	. 26		. 03		. 10	1.30	T. .06 T.	. 02			. 30	. 31					. 04	
mbrota South Dakota.	Mississippi		.00	.4	0			1.	1.	••••			1.	. 18	. 40	. 00	. 12	. 40	••••	. 30	. 50		1.		****	••••	.50					••••	3.
bank	Minnesota	т.	.36	.4	5			. 07	. 05					T.	T.	. 85	. 04	. 04	T.	. 23	1. 13	. 41	T.			. 23	.11	1			11 9	211	3.
seton	do																			. 30	. 65	. 12				T.							2
Wisconsin.								-									16							100	1.	1,0	134	Alm		333	12.03	000	10
ron	Wisconsin Chippewa	. 09	. 15	.i	1. 10		. 20	.04					. 15		T.	. 92	.26	.32 1.20			. 22 1. 02	.42	. 03	• • • • •	T.				.81		. 62		5 6
oit St. Germ'n Dam	Rock Wisconsin			.0			0 1.05		.05		••••		T.	. 60		. 25		.51		. 36	. 64	. 75		••••		• • • •	1.80		. 05	1 14			6
dhead	Rock			. 1	0 . 13	1. 19	9		. 05	. 07			T.	.73		. 20					1.33	. 80					2.05			1. 14			6
nett	Chippewa		10	T.	. 19	. 8		T.	. 20				.22	. 56		.21		T.			1.37 1.06	.76	T.	. 04			. 66	T.	. 60	.36			5
age Grove	Rock				5 .21	1.20			. 06				T.	. 95		. 93		.28		T.	1.48	. 92	T.	T.	.21		.81		. 26	.01		****	1 €
ingtonskin Dam	Wisconsin				. 60	1:00				. 30			. 10	.70		. 75		.74			1.50	. 90					2.00			.55			1000
van	Rock			.1		1.00	3		. 11				.03			. 20		. /4	****	1. 12	. 62	T.	.00			****	1.20			.02			1
geville	Chippowa							T.					.20	Т.						.20		10											
Claire	Chippewa		T.	.0	7 .29			T.	.05				. 18		. 20	. 63	. 20	. 65	****		. 90 1. 04	. 12	T.	T.		••••	T.			. 92			2
Flora	do:			T.	. 13				.32							. 80	. 18	. 46		T.	.78	. 14								. 75			3
nd Rapids	Wisconsin St. Croix			T.		. 88			. 16				. 13	T.	.31	1. 15 1. 00		. 23	T.		. 80 1. 10	.77	. 07	. 01	. 05	••••			. 02	1. 25	. 02		3
cock	Wisconsin				. 2. 12		5		. 20				. 12	. 50		1.30	T.	. 35			1.05	1.05	T.				.20		.08				8
ieldward	Black St. Croix				. 62				.24						. 45	1.25					. 92	.72	••••		. 11	••••	. 13	.50		. 15			13
boro	Wisconsin				2.58		3	T.	. 25				T.	.52	. 12	. 76					2.20	.30	T.		T.	T.	.71	T.	1				7
penick	do Mississippi			. 6				.01	.50				. 10		.88	. 60	.50	••••			. 60 1. 46	. 40 T.	T.		. 10	. 18		. 40	T.	.80	.20		5
e Mills	Rock			T.	. 07	1. 48	3	.01	.04				.02	. 98	.04		. 20			T.	2.48	. 58	T.			. 10	. 89	. 00	. 16	.08	T.		7
caster	Mississippi			.0	1. 92				. 20					. 86	. 14	. 48				. 18	1.75	. 29				*	1.25						8
g Lake	Wisconsin Rock			.1				T.	. 10				. 11		.28	. 18	T.	. 57	• • • •	14	. 79 1. 82			T.	.01	.08	77	. 10		.66		T.	3
shfield	Wisconsin				77	. 01			. 14				. 11	.02		1.25	.02	. 48			1.07	. 16	.01		. 14					2.00	.04		1 6
her ston	do			.0	7 1. 07 2. 00	.56		.25	.21	. 05			. 16		. 50	1. 19		. 56			1.04	. 76 1.00			. 03	••••	.28	. 07	T.	. 22			6
dow Valley	do				. 1.57								. 42	. 50	.30	. 90		.30			1.06	.02			.04		.07			. 45			5
ford	Black Wisconsin								.35				. 14			1.00		. 56				1. 10 1. 03	. 05		. 03				T.	. 63			
ocqua	do		. 10		30				. 17			****	. 16			40	19	88	1010		. 95	. 20			.05					1. 10	. 16	****	1
dovi	Mississippi			. 10	.38	.02	2	.01	. 21				. 16	. 17	. 37	. 55	. 13	. 63	. 02	. 10	1. 15	.01	. 02				. 42			. 05			4
nt Horeb	Rock Wisconsin	••••		.23 T.	. 62	1. 21	.24		. 12	. 05			T.	. 75	.20	. 65		T.		. 22	2. 01	1.07	T.			T.	. 98		. 40			••••	1
lsville	Black				. 50				. 20							1.95		. 55			. 80	. 90			. 30		.37		1000	. 98			1 6
Richmond	St. Croix	T	. 06	. 13	1			.06				20	. 13		. 53 . 85	. 78	. 19 T.	. 23	.61	.08	. 10	.02	T.	T.					T.	. 05			1
Falls	Chippewa		T.	.00	.15				.12			. 20	.14		. 00	.59	.12	. 60	.08		. 21	. 95			.13					1.18	.12		E
age Edwards	Wisconsin					1.65			. 12				. 02		. 56					T.	1.20	1.16			T.		.78	.31	.34	. 15			
rie du Chien III.	Mississippi			.13	1.30	1.54	T.		. 40 T.	. 28			.06	T.	. 45						. 80 1. 05	.90					T.	.06		. 80		****	1
ie du Sac	Wisconsin				2.00	. 50			. 11				.06	. 76	. 03	. 76					1.23	. 91	.01				1.03						
rie du Sac tice Lake	cnippewa		T.	T.	T.				T.	• • • •			1100			. 47	T.	. 34	.11	.22	. 30	. 65	.07	Т.	.04	••••				.73			
elander	Wisconsin			. 01	. 44				:27				.17			.34		. 56	.17		.17	1.05	.01	.02	. 02					. 76	. 69		1
lsburg	Mississippi			T.	. 93	1.30		T	.18				.08	.77	.18	1.06		10		. 22	2.06	. 21	T.	• • • •	10	• • • •	1.78			.70		****	8
n Springs	do	T.	. 02	. 09	.35				. 22				.12		T.	. 53	.78				1.00	. 24			.04				.15	. 20			4
ley	Chippewa			. 02	.35	10		T.	. 12				. 20		T.	. 85	. 85	. 60		.15	1.57	. 03			.35					1.22 2.50			16
ens Point r Camp Dam	do		T.		.37	. 10			. 10				.10	. 32	. 14	. 18	.23	. 55	****		.97	.11	.05					. 23		. 98	.20	1000	4203
ahawkt Lake	do				. 40				. 60				.10			. 40		. 40			. 80		Ť.							.18			E
Lakes Dam	do		. 10	*	1 . 1 4	1			. 10			T.	T.		17	. 10		. 15			. 15	87	т.			••••		T.		. 15	1.05		H
y Junction	do				11 80	16		T.	. 30					. 60	1.02			. 40		. 80	. 60				. 10		. 78		T.	.12			ш
					1.95			T.	. 36				.01	. 60	. 05	. 42	40	. 05		. 16	1.68	.06	.01		T.]		.78	. 15	T.	.50			1
ertown II	Rock	1		1	1 19	. 44	. 63	T.	.06				.03	. 20	. 95	.39					1.30	.75	2000	00			.74	T.	.30	.20	.07		1
keshasau	Rock Fox			.04	. 03	1.23	. 27		T.				.10	. 47	. 56	. 27					1.42	. 43	T.		T.		1.10		.30 .75 .98	.37	. 02		
erhaeusertehall	Chinnews	T	771	O	.06			. 20	23				.15		T.	1.12	.15	. 64	.01	80 .16	1. 24	.18		T.	.02					.27			
Iowa.	arississippi		••••	T.	. 60		-	. 20													. 50	. 10				••••		111		. 20	- 01	Free	1
a	Des Moines.				. 70	. 62	. 70			. 05	.08	т.	.49		. 50	1.05		. 02	T.		. 20	. 94				.08	.38				T.	.01	1
11	Raccoon		.30	2.00	. 25				. 55	.55				1.25	.60	. 35	T.		.08	1.14 T	1 10	90	т.	• • • •	••••	.35	1.25				07		
na	Iowa		. 04	. 05	1.77	.84			T.	.22			.04	1.11	.35	. 55		.49	T.	.29	. 50	.30				13	57		0.00	a	T.		17
nas.	Skunk			1.47	. 20	. 04			· · ·	. 60		T.	T.	. 80	2.02	.58	T.		T.	.29 .34 .41 .30 .80 .14	. 85	.02	T.		. 20	27	95						1
ter	Iowa			. 21	1.74	. 18			1.	.02			.07	. 63	. 21	.43		. 20	T	. 41	. 26	.03		••••	.23 T.	.28 .28 .63 .02	.20			. 02	.01 T.	T.	1
ond	do	.10	1, 27	. 04					.51	.51				.80	.71	.31			T.	. 80	. 68	.23 T.	T.			. 63	.54					T.	0
	Miggigginni		1000		11 22	. 83			J. 10.	. 20			. 30	30	- 46	22		10		14	20	20		- 6						.07		. 02	

TABLE 2.—Daily precipitation for May, 1913. District No. 5—Continued.

Stations.	Watershed.														1	Day	of mo	onth.														
Stations	watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
wa-Continued.																				27												
one [[Des Moines .			. 42	1.02	. 07				. 51	T.		.12	. 52	. 72	73		. 12			.90	.31	T.			. 68	. 28					T.
rlington	Iowa Mississippi		.32	1.78	.01	70			. 45					1.20	. 84	1.12	. 01		. 02	.97	. 68	. 62	. 01			. 23	1.27	.01				T.
roll	Raccoon			2.11	. 59	. 10	. 80			. 76	.00			.24	.34	1.08		. 42	. 10		.94	. 43	****	****	****	.50	.33			****	.15	****
lar Rapids !!	Cedar				. 53	. 95	.74			. 25	T.		T.	T.	.79	. 85		.04		.97	. 51	. 62	T.			T.	. 70	T.		. 05		T.
rles City	do		. 09	. 94	.02				. 56				.01	. 73	. 74	. 05	T.		T.	. 97	.77		Т.		. 06	.38					T.	T.
ton	do. Mississippi Iowa		****	.35	15	1.56	T.	****		.17		****	. 20	.44	. 69												.84		****	T.	****	
umbus Junction.	Iowa			. 05	1.00	1.70				. 14				. 55	. 28	. 35		. 15	T.	. 55	. 49	. 15				. 25				.08		
enport	Mississippido			. 50	.34	1.17			T.	. 07			. 03	.32	.48	.11		. 30		. 05	. 65	. 18			. 08	. 20	. 40			.01	T.	
orahaware	do			. 33	1 41	80		.04	.04	07				74	. 66	.47				. 66	38	18	. 03	1.		16	1.43	.38			T.	****
Moines	Des Moines.			1.62	.17	. 08			.04	. 45		.06	.02	.53	.67		. 072	T.		.43	. 41	. 03	T.		. 19	.16	T.				1 00	T.
MIGHA	Mississippi			10	1 33	1.30			. 03				. 07	.32 .93 .74 .53 .60 .65 .70	.54	.34				.33	.71	. 15	T.		T,		1.41				T.	
ham	Mississinni			1. 65	.21	2 10			1.	. 49			.26	. 65	T.	.98				.35	. 51	.01				. 05	1 00				. 25	1
18	Raccoon Mississippi Wapsipin i-		T.	.90	.30	.02		T.	.30			.02		.92	1.03	.12	T.	.03		. 42	. 05	.03				.12	, 22				T.	****
	con.		-			-		1																				-	1	1	-	
herville	Des Moines.			.92		1 20		T.		. 60				. 60				.30		.10	. 75						. 50			00	****	T.
ette	Skink Mississippi				1. 23	4.40	.01	****	****	.14					1.04			.07		.10	. 00	. 10			••••					.00		T.
et City II	Codor		1	1 95	49			100		5.4		1		.40	. 95	1.25	T.		T.		. 65	. 22	. 02		. 15		. 51				T.	T.
Dodge	Des Moines.			1.05	. 55	1 50				. 75				.35	;;	1.25		****		T. T.	. 40	. 53									·	. 03
nan	Des Moines. Mississippi Iowa Mississippi		****	18	20	. 89				. 14	25		. 22	.50	.45	. 62		. 55	T.	.39	. 05				15	20	1. 00			****	T.	
nd Meadow	Mississippi			. 40	1.54	.07		. 01	.33					.66	.30	.34				.37	1.65		. 01		. 05	.06	. 56			T.	T.	
HIBH	IOWA			1 . 1991	12 - 4917	- 40				- 30			. 110	. 32	. 10	. 45		.08	T.	.34	. 13	. 04			. 25	. 25				. 06		T.
ndy Center	Cedar Raccoon		T	1 00	1.07	.10		****	01	.02			.18	.62	.37	.37	.02 T.	.08	T. T.	.38	. 97	T 10	T	****	Т.	. 14	.91					.03
anton	Cadar		26	1.02					. 50				.10	. 80	1.26	.75		.00	T.	. 70	. 92				.33	1.45	.05	****		****	. 20	.00
nboldt	Des Moines Wapsip'con.		. 24	1.57	.02				. 64					. 68	. 61	. 66			.04	. 53	. 40	.01				. 15					.01	
										00			.54	.68 .85 .55	.47	. 45 1. 19		.01		.37	1.00	.05	T.			.30	1.02		T.	T.	T.	
a City	Iowa			1. 32	.37	1. 17	. 80			. 10	T.			23	1 25	. 95		. 12				.76	T.			. 18	. 43		Т.	.06	. 08	1.
Falis [IowadoRaccoonMississippi			.71	.97	. 16			T.	.31				. 12	.80	. 23 1. 13	T.	. 14 T.		T.	1.32	. 48	Т.	T.		. 18	. 78	T.				T.
rson	Raccoon	·	1.55	1. 15	.06	T.			.01	. 61			.02	. 75	.65	1. 13	T.	. 28	. 28	.78	. 82	.01	****		T.	. 44 T.	.08				. 11	
kuksauqua	Des Moines			. 20	.04	. 94	1.07			09	10		.04	.05	23	.43		. 26		. 23	. 35	.01				.09	. 65					T.
mandam Blesses	DOO MEDINOON						** **																									
ona	do			. 62	. 48								.30	.66				.02		. 60	. 18	. 10				. 12	.50				. 16	T.
sing.	do.			.09	1. 55	. 66	1.00		. 23	T.	01		.03		.12	.31	.01	. 13	.02	.20 T.	. 47	1.50	T	T.	.01	. 56	.02	.03	3 .04	T		T.
shalltown	Iowa			.05	1.75	. 42	. 03		T.	. 16	.02		.07	. 12	.99	. 43		. 18		T.	.72	.37	T.	.01		.30				. 02		
on City	dododododododododo		. 15	1.06	. 16	****			.75					1. 13	.42	. 49				. 95	.50						. 65					
int Pleasant	do		1	16	an	9 10	01	1		19	1			24	96	15	T.	T.	T.	.35	. 11	. 18	T.	т.	T.	.56					.09	T.
scatine	Mississippi Wapsip con. Cedar				.29	.90	1.22			. 02	. 03			.02	.48	.48		.80			. 22	1.01	T.			. 40	. 52			. T.	. 02	T.
w Hampton	Wapsip'con.			. 32	1.05				. 46					.75	. 66	. 16				.48	.96	.02	.02			.09	. 56	3				
a Springs	de de		33	1 35	.11	****		00	. 63			****		1.02	1.44	. 14				1.15 1.03	. 90		T.		92	.87	.03				. 03	.03
1	do Wapsip'con.		. 20		.75	2.05				. 25			. 20	.82	.42	.90		. 15		.20	. 95	. 45			. 20	.30	.85					
ge aloosa umwa a	Cedar			1.00	1.35				.37					1.23	. 67	. 52				.70	.81					. 15	. 38					
a1008a	Des Moines			.23	1.00	.61	****			. 14			. 12	. 57	1.40			.04	.10	. 18		. 18			T.	.50					. 12	
3	do			.25	1.55	.75			T.	.36			.09	1. 19	.36	1. 16		.25	T.	.40	. 43	. 35	T.		T. T.	. 42	. 12			. 10	T.	.01
y	Raccoon			1.23	.59	.02				. 68				. 64	1.06	.36		. 17								. 33	. 16	3			. 10	T.
MIULIUS														1 05	.75	. 65			. 65		1 05		****		10	.80	.50				.10	
City	do		1.00	2.07	.04				20	.61	****		.05	. 78	.78	. 65			T.		1.05				.02							T.
chty City Charles Char	Des Moines.			1. 25	. 17	. 12			T.	. 45			.40	. 63	. 19	1.08		.07		. 20	. 75	. 03				. 07	. 45	5			20)
ourney	Skunk			·	1.75	. 40				.31				1.00	. 15					. 20	.77	. 35			.02	. 30	. 63	3		07		T.
m Lake	Raccoon		87	1.	1.03	1. 43		T	.41	. 10			.03	1, 13	.67	.37	T.			.11	1.00	. 15	Т.		T.	. 02	. 38				T.	
ton	Cedar			T.	1.01	. 86				. 17			. 15	2. 47	.50	.20	.41	. 45	T.		.72	. 43				. 40	. 62					
																. 45		1 . 17	1 7	.37	93					30	50	0		02	2	T.
shingtonterloo	Skunk Cedar Raccoon			11	2 00	1. 11			T	. 15			.87	00	.33	. 35	T	. 18		.26 T	. 67	1 97		T		. 23	. 30			. 03	3	****
ukee	Raccoon			1. 19	. 15	.02			T.	. 33	T.		. 15	. 65	.06	.50		. 08	T.	.48	. 43	. 07			T.	.27	1 .18	5			. 1	T.
verly	Cedar																															
bster Cityst Bend	Des Moines	.54	- 64	1 69	97		T.	T	.30		***			1.05	.58	. 28	T.		T.	.41	. 93	.07			T.	. 25	.24				T.	
itten	do		. 10	. 57	1.27	. 05		1.	. 30	.35				. 85	.42	.37			T.	.33	1. 11	.10	T.		1.	. 30	55	2			1.	
iterset	Iowa Des Moines			1.52	.24	T.			T.	. 47			. 28	. 60	. 45	. 69		.11		.55	. 40	.08			T.	.08	3 .26	3			50	T.
Missouri.																														1		
ininibalisiana	Mississippi			. 08	.40	1.78				. 28			. 16	. 45	. 02	. 10		. 12		. 26	. 22						1.0	1		00	5	T.
inibal	do		****	.03	.05	. 03	.01			. 05	.0		T.			m.		. 22		. 49	. 12	T.		****	****	.01	1 .14	4		. T.	T.	T.
isianaonico	do			T 10	.02	.63	****	****		T	111		.03			T.		46		40	49	. 33	****	****	****	T. 03	11	3				
ico II	do				. 18	T.	. 07				.0	. 19	.12						.07		. 17	. 45				T.	. 45	8			T.	T.
myra	do			·	. 55		·			****	.00				.37			.20		. 35	. 02	. 22				. 23	3					
myralett	do	1		T.	2.00	2.00	T.			19	.00			.08		. 45		2 10	1.00	.47	.50	. 22			****		1.10	0				T.
dalia	do			. 23	.06	.03				. 12		.23		1				.13		.24							3	2				30
rrenton	do				.03	.02	. 16					. 10					T.		: 09			. 35					2	0				
Indiana.		10								1																						
ecaville	Iroquois				.12	. 23				T.				.10	2, 12			.32			T.	2.17				.37	71.2	4				
																						11 59	1	OF	,	O.S	211 6	71 7	0 3	41 7	1	
orte	do					.02								. 05	.73	.05	.10	.08			.02	.75		.01			2.2	0 .2	2 .0	5 .10	0	
orte mouth th Bend	do					19	.26			.02				,05	.61	71	-20	.12			.02	1.19	01	T.		****	2.0	3 .5	9	. 00	5	
1		1	1			.12	.00	1						. 08		.12	. 20	.00	1		. 02	.00	.01	.01	****	****	2.1	1.0			1	
Illinois.																1																
do kander ioch oria	Mississippi.			. 42	.54	1. 17				. 07				.70	.56	. 18		. 15		. 12	. 19	.37				.26	8 . 8	7			Т.	.02
	Illinois			T.	T.	1.01				.00				.01		T.		T.		. 09	T.	. 07			1	T.	45	2		T.	T.	T.
rander	3					40														PPS 1		4 -					1		-1	T.		

TABLE 2.—Daily precipitation for May, 1913. District No. 5—Continued.

																Day	of m	onth	1.													TYL	
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Illinois-Contd.																																	
eardstown	Illinois				. 07					T. T.	.30										. 18	. 05					. 45						1
amont	Mississippi				T.	.71				T.			T.	т.						T.		. 05				T.	. 48				T.		1
loomington	Illinois Mississippi					. 11	T.			. 00	T.	T.		1.	••••	T.	. 65		. 05	T.	. 97 T.	T.	.01			. 12	. 34	****			T.		2.
iro	do			T.	T.	.27				. 21				. 28	T.	. 34	. 16			.28	.27	. 29				T.	1. 28	I S. M. S. H.		T.			3
rbondale	do Illinois				. 05	.14	T.				. 12						. 52 T.	T.	. 10	T.	. 13	. 65 T.				T.	. 64					.35	1
rlyle	Mississippi				T.	T.											.80	. 10		1.	T.	.30	****			1.	. 04	****	****			. 33	1
ester II	do Illinois			T.	T.	. 02		. 16			. 22	.04	· · · ·	· · · ·		T.		. 96		T.		. 08					. 12						2
inton	Mississippi			T.	. 02	. 20	.07			. 09	.08		T.	T.		T.	70	T.	****	Т.	. 25	. 56		T.		. 02	. 68			T.	T.	T.	1
akota	do Illinois			. 13		1.26			. 07	. 10			. 07	. 55	. 45	.24		T.		. 10	. 98	. 91			. 02		2. 20		.02		T.	. 05	7
ecatur	Illinois			. 07		. 17				T.	.11						T.		T.		. 03					T.	. 50						1
ixon uQuoin	Mississippido		****		.55 T	. 10	. 75			T.	.02		. 20	. 03	.74	. 43 T.	.04	. 15 T.	.28		. 33	. 65	T.		T.	. 18	1. 10	.03	****		T.	. 03	5
wightast St. Louis	Illinois			. 05		. 39	. 05			.01			T.	.14	. 45			.07		T.	1.95					. 22	1.05		T.		T.	****	5
ast St. Louis					. 16	. 04	.09										T.	. 12									. 73	. 09					1
dwardsville	do Illinois			37	.52 T.	1.40	.21			.01				.18	. 19	.01		T.	.32	T.	.54	.84				05	1.00 2.10			T.			1 5
wing	Mississippi				T.		. 11									T.	.87		.26			. 83	.02				. 33			1			2
airview	Illinois			. 09	T.	. 22	. 02			. 11	T.			. 12	T.	T.		. 49		.11	.04	. 43				. 03				T.			2
alva rafton	do Mississippi		***		. 10		. 38			.09 T.	.02	T.	. 03		1.05	. 33	••••	. 19	.04		. 15	. 69 T				. 11 T.	. 68			. 01			4
reenville	.00				.04		.02										.04		. 15			T.					. 75					T.	1
riggsville	Illinois			. 03 T.		. 02				. 07				. 13				. 07		. 15	. 13	. 06				. 04				T.			1
avana	do	****		. 13	T.	. 18	.07			. 12			.07	. 05	.16		****	. 15		. 10	. 50				****	T.	. 60			T.	T.		1
illsboro	Mississinni				.31	. 10				. 00						20.70		. 20			. 10	.00					.38					. 18	1
liet	Illinois			. 02	T.	.31				. 06			T.	. 64		T.		. 04			2.07		T.	T.		. 18					T.		1 5
ishwaukee Grange	Mississippi Illinois			. 23 T.	T	.84			.07	.03			.04	.31	.31	.27		.22 T.		. 05	.82	.19	.01 T.	. 03	T.	2.03	2.07	T.		T.	T.	.02	5
Harpe	do Mississippi			. 44	.22	.98				.14				.10		. 62		.32		.18	T.	. 12		.00			.37	1		.04		****	Ca ca ca
anark	Mississippi Illinois			23	. 22	1.62	.02		T.	. 08			.14			.28		.08		.08	1.65						1.6	i		T.	T.		. 6
aSalleincoln	do					.77	****			.05			.06	.74	. 23	T.		.20	T.	.04	.78 T.	.13					1.04				T.	T.	2
acomb	do			. 34 T.	.04	. 85	. 08			.11				.03				.27		.18	.17	.21				T.	.39			T.	T.	.08	3 2
antenoartinton	do			T.	T.	.31	. 05	T.		.12			: :::		1.75	.18	T.	.09			. 29	1.28	.01			. 13			.06			T.	5
ascoutah	Mississippi	****	***		.10	****		T.		****	T.	**	1.57		T.	.05			T.	2.00	.90			T.	.30	.75	T.			T.	****	T.	1
inonk	Illinois Mississippi					.50				. 05					1.00						1.30	1.46				.21	.46			T.			. 5
onmouth	Mississippi			. 68	.30	.98	1.00			.20				.91	. 15					T.	. 25					.30				. 02		.43	6
orrison	Illinois Mississippi			. 19	.10	1,53	.02		****	.10			.15		1.31	.37	****	.15		.04		1.23				.27	1.6				T	T.	6
orrisonorrisonville	Illinois				.19		T.			.04						T.		T.		T.	.69 T.					T.	.30 T.			T.	T. T.	.09	1
ount Vernon	Mississippido				T.		T.			T.						20		. 48				. 05				T.	T.	. 52					. 1
regon	do			. 30		.70	.11	T.		T.	****		T.	.34	.22	.36		.18	.18	T.	.10	.20					.38		T.				1
ttawa	Illinois			. 19		1.04								. 65				.27		ALL A	1.35	. 68					1.50	3					. 6
anaaw Paw	Mississippi Illinois			50	.07	1.09	10		T.	.07 T.				.30	.49	.05		.23		T.	.06		·				.4				T.	.17	5
eoria	do			. 01	T.	.03			1.	.08			T.	.42		.00		.09		.04	.14	.75	T.	T.		.14	1.3		****	T.			1
ontiac	do			T.	T.	.35	.19		T.	. 02			T. T.		1.90			.06			1.90					.26	. 80)					. 7
uincy iley	Mississippido			38	.39				T.	19	.14		.01	.06	.08	. 49		.15	.16	.03	.60	.36	T.			. 02	1.6	3					. 2
oberts	Illinois				T.	.33	.07		.01	T.			T.		.49	T.		.08		T.	T.	.89			. 01	.00			.01			****	5 9
ockford	Mississippi				. 22	.06	.87			.12			. 05		1.07	. 23		. 05			. 66	. 86			T. T.	.03	1.3						. 8
ushville	Illinois				T.	2.10	.06			.72			T.	.11	.45	.32		.08		.20	2.06				T.	.41		T.		T.			. 1
. Peter	do Mississippi				T.	T.	T.			.02			1.	.00	. 20	T.		T.		.00	.10				1.	.04	1.7		.02	1.		.18	8 1
parta	Illinois			т.	T.		.07								.36	1.01		. 05		.02		.70					.39	9			T.		2
ringfield	do			Т.	T.	.10	40			.12				T.	1.54	T.		T.	10	.07	.15	2 0	T.	T.		T.	.5			T.	T.	T.	1.
allivan	Mississippi				T.	T.	.11			. 10				1.	1.04	1.		.00	.12		.18			1.		.11	. 6		1	1.		T.	1
ycamore	do				0.0	T.	1.10			T.					.50			T.			.30	1.00	T.	T.	T.	T.	1.2	0 .40)				. 8
iskilwa Valnut	Illinois Mississippi			27	T.	.30		.10		.07				1.05				.19		.08						.20	1.3	2		T.	T.	T.	
Varsaw II	do		1	50	.38	1.10				.11			.18	.29		. 24		.38		.06						.6			1			T.	1
Vaterloo	do				.18	. 02					. 12					T.	.58		.02		.02	.27					. 2	8					1
hite Hall	Illinois				T.	. 01	.02			T.	T.		T.				.72 T.	. 05		.08	.09	.38				.03	. 6			T.			. 2
innebago	Mississippido			. 16	.03	1.23			.03	.03			.06	.38	.45	.32	T.	.16		T.	1.05	.02			T.	0	11.8				T.		. 6
orkville	Illinois	1	1	. 18		1.74				.02			.01		.29			.18			1.00				1		1.5		.01		.00		. 8

<sup>Precipitation included in that of the next measurement.
Separate dates of falls not recorded.
Precipitation for the 24 hours ending on the morning when it is measured.
Precipitation is less than 0.01 inch rain or melted snow.</sup>

TABLE 3.—Maximum and minimum temperatures for May, 1913. District No. 5, Upper Mississippi Valley.

				. 1	North 1	Dakota	à.												Minne	sota.								
Date.		itti- u.§§		vils ke.	Lisb	on.§§	Min	ot.§§	Pemb	ina.§§		lege- lle.	Croe		Gra Mead		Moi	nte- eo.§§	Mo		Vin		Pine I Da	River, m.	St. I	Paul.	Wini	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1 2 3 4 5	51 42 60 56 52	29 27 35 17 11	47 42 59 55 51	31 27 34 37 32	64 45 65 63 62	33 32 34 34 31	48 46 61 58 56	28 30 34 32	44 51 48 52 50	22 26 34 32 30	73 54 55 65 59	42 39 40 40 44	43 45 65 54 55	31 30 35 36 34	82 74 67 60 61	44 45 46 45 45	55 42 53 76 66	35 38 39 42 42	42 42 61 59 60	32 34 35 39 34	81 74 54 70 60	51 42 45 45 45 44	85 55 55 56 64	30 36 32 36 36 36	84 71 58 66 62	55 47 47 43 47	52 46 52 66 58	4 3 3 3 3
6 7 8 9	59 59 56 60 59	24 33 26 32 32	58 57 51 55 54	30 32 27 27 27 35	62 63 63 68 67	26 30 33 33 28	61 62 51 60 64	25 33 31 36 41	71 52 48 52 51	28 32 22 28 30	59 58 54 54 61	38 42 37 34 33	57 60 50 53 65	30 35 29 30 32	57 54 56 55 59	34 37 45 34 29	67 54 59 56 65	35 45 37 33 31	61 54 53 56 66	30 42 31 32 30	63 63 58 62 62	35 40 45 36 32	62 53 52 54 63	34 35 36 26 27	61 51 61 55 62	41 45 43 37 38	59 52 54 55 62	20 20 20 20 20
l 2 3	71 63 51 48 62	41 37 28 29 38	73 68 50 50 62	46 33 26 35 39	62 88 68 50 67	38 41 33 34 39	73 65 53 49 63	41 40 30 31 37	62 53 59 62 52	51 40 22 41 34	62 69 62 55 55	42 51 45 34 34	62 72 50 50 57	40 48 32 40 36	64 72 65 52 52	34 48 44 43 42	67 78 66 47 68	43 50 47 41 38	64 75 58 48 60	45 43 34 38 38	62 70 63 50 60	40 41 52 46 41	64 68 66 56 52	41 44 42 33 32	64 71 67 48 51	44 54 46 43 43	68 66 64 58 46	
	60 55 60 52 46	31 36 25 37 38	60 52 55 51 44	35 36 28 35 40	67 67 61 52 50	37 42 30 40 37	61 56 58 47 48	31 39 30 41 38	56 57 54 56 48	34 28 28 32 32 38	66 60 57 51 44	43 44 38 38 40	63 55 53 58 48	38 42 35 35 35 39	63 64 59 53 57	40 48 39 42 42	66 64 60 48 49	50 46 35 40 39	64 58 58 50 47	39 38 32 39 40	69 63 55 48 54	42 47 38 43 43	54 52 56 53 53	38 38 36 32 37	64 62 57 50 49	42 48 41 42 43	64 64 58 55 53	
	55 69 70 64 69	39 41 43 37 41	54 66 71 62 66	37 44 43 37 42	50 68 77 64 73	39 36 45 41 41	53 70 72 67 66	39 36 44 41 43	51 68 68 68 71	35 39 44 36 36	49 60 70 64 62	39 41 43 48 31	50 70 75 60 65	41 37 45 42 43	56 52 68 70 58	42 43 37 47 40	50 63 80 54 62	40 43 40 46 37	48 66 76 65 63	42 36 46 42 45	51 55 70 62 55	43 43 38 48 39	46 62 69 66 60	38 41 36 48 29	52 60 69 64 63	42 44 45 44 37	45 66 66 63 60	
	87 94 93 83 84 88	45 48 63 54 43 57	84 92 86 83 81 77	48 55 60 58 52 37	87 97 90 96 85 88	37 46 56 56 56 56 56	86 93 91 83 85 87	48 51 63 63 48 58	80 92 82 82 82 90 81	48 56 55 51 51 50	72 89 84 85 80 83	42 55 58 63 57 59	78 91 84 87 80 75	46 52 59 58 52 53	64 81 82 88 82 80	47 47 60 63 57 50	68 93 91 92 84 85	48 50 63 64 62 53	80 95 92 89 80 84	45 53 60 58 56 51	66 89 91 92 83 81	52 52 60 64 62 51	73 88 88 79 75 83	31 53 54 53 55 43	69 89 88 88 83 81	48 53 64 63 59 58	72 87 81 73 75 80	
ns	63.8	36.0	61.8	38.6	68.7	38.5	64.3	39.4=	61.6	36.1	63.6	43.0	62.3	39.8	64.7	43.8	65.4	43.6	63.7	40.6	65.7	45.2	63.3	38.1	65.2	46.6	61.9	37

							Wisco	nsin.													Iow	va.						
Date.	Eau (Claire.	Grant	sburg.	Han	eoek.	LaC	rosse.	Mad	lison.	Prei	ntice.	Wat	ısau.	Alge	ona.	Cee	dar ids.§§	Cha			ven-	D Moi		Dubt	aque.	Keo	kuk.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.																		
1 2 3 4 5	86 81 73 63 64	60 52 56 49 53	84 69 58 70 66	53 46 41 35 43	86 85 80 73 60	60 59 60 55 54	86 83 74 62 62	61 60 55 52 48	82 80 71 71 62	55 59 59 59 59	79 77 65 65 61	56 42 58 46 52	81 80 73 60 62	54 56 56 51 54	85 72 65 59 61	54 53 47 41 47	88 85 82 65 61	51 60 63 60 59	84 79 64 60 60	54 51 50 48 40	84 83 70 75 64	59 62 60 60 54	84 80 71 63 60	61 61 54 54 52	84 82 75 67 61	58 62 61 58 53	84 82 71 76 67	5: 6: 6: 6: 5:
6 7 8 9 10	63 58 64 60 63	37 33 45 33 30	61 53 59 58 65	35 34 39 27 26	63 63 58 57 60	38 36 45 34 30	62 59 60 56 60	39 38 49 39 33	58 62 60 52 53	45 43 48 38 33	58 57 59 60 60	47 29 41 30 23	58 60 57 51 55	38 31 41 30 29	61 66 59 57 58	38 45 49 39 37	63 69 72 56 58	43 41 43 48 39	60 61 56 57 58	35 40 50 40 35	64 67 73 56 57	44 45 51 40 36	64 67 72 55 57	41 42 51 46 43	61 65 61 55 57	45 42 53 42 37	65 67 74 57 58	4: 4: 5: 4: 3:
11 12 13 14 15	66 72 69 59 53	35 49 47 42 44	68 72 67 58 58	39 38 40 36 38	62 73 68 54 70	37 44 45 35 43	64 76 59 50 62	38 51 49 43 43	60 70 61 51 70	35 45 47 38 48	60 62 63 63 58	32 35 34 34 42	60 68 60 55 54	35 42 40 35 40	65 76 68 55 58	38 52 50 48 45	68 79 63 58 59	36 37 51 50 51	64 76 58 52 57	38 51 49 46 44	65 76 68 62 70	35 50 52 51 50	63 80 67 67 60	41 52 55 52 52 51	63 76 56 55 68	38 48 50 45 47	65 79 80 84 70	31 51 51 51 51
16 17 18 19	60 67 60 57 50	38 50 39 36 42	67 63 60 56 52	45 47 35 32 42	69 67 64 58 52	39 57 41 37 41	69 68 63 57 59	40 52 43 42 42	67 68 61 59 61	42 53 46 42 40	63 60 60 55 55	34 42 34 29 40	67 62 57 56 47	38 48 39 32 39	69 69 59 49 62	45 48 40 44 45	78 69 66 56 78	42 44 47 50 46	68 64 58 55 59	42 47 40 44 44	71 69 68 60 77	45 56 48 48 48	74 68 66 58 66	47 55 50 48 52	69 67 63 62 68	43 55 47 48 44	- 76 66 68 64 82	4 5 5 5 5 5
21 22 23 24 25	52 57 71 69 63	47 44 35 46 38	49 61 69 61 66	40 43 35 42 29	56 58 70 72 69	45 44 45 48 35	56 53 70 73 62	49 44 38 54 47	64 52 64 73 55	49 46 46 48 40	49 49 65 65 57	40 38 30 45 26	53 51 67 69 56	39 41 40 46 30	60 54 67 75 66	44 44 40 48 57	57 54 70 76 58	48 47 44 46 53	56 54 69 75 57	44 42 39 52 51	64 56 66 76 62	53 49 47 51 47	57 56 70 79 68	50 47 44 52 58	61 53 69 75 63	50 48 47 52 49	64 55 65 76 76	54 56 45 51 66
26	70 87 87 84 82 81	45 45 56 58 57 52	74 91 91 81 80 85	38 51 52 60 46 44	59 78 81 77 84 81	41 39 57 53 57 51	65 83 88 83 84 80	46 48 60 62 64 55	55 72 80 77 81 77	42 43 63 55 58 59	70 80 85 85 70 76	40 44 46 52 45 46	61 78 82 68 78 78	32 40 51 52 53 48	64 88 89 91 84 82	51 49 59 69 53 53	64 81 92 91 87 88	51 48 48 64 65 62	66 84 88 89 83 81	49 46 66 65 60 54	58 75 88 88 88 85 84	49 44 62 64 68 65	68 83 88 96 87 85	55 49 59 69 66 65	59 76 .88 86 81 79	48 43 63 62 67 62	66 78 88 38 88 90	58 48 62 66 70 66
Mns	67.5	44.9	66.8	40.4	68.0	45.3	67.4	47.9	65.5	47.6	64.2	39.7	63.4	42.0	67.4	47.8	70.7	49.6	66.2	46.8	70.4	51.4	70.3	52.3	67.9	50.5	73.2	53.7

TABLE 3.—Maximum and minimum temperatures for May, 1913. District No. 5—Continued.

											4	Illine	ois.§§							
Date.	Hann	nibal,	In	orte, d.	Ca	iro.	Green	ville.	Las	salle.		on- oth.		unt non.	Peo	ria.	Sprin	gfield.	Winn	ebago.
*	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1	85 83 76 77 75	58 63 64 61 55	84 86 84 82 75	41 47 52 59 62	82 82 81 77 79	56 61 64 67 67	85 86 84 79 81	50 52 59 61 61	83 83 78 79 74	55 58 62 62 56	85 84 69 74 71	50 53 58 59 60	82 84 82 78 80	49 54 56 62 60	84 83 79 80 77	54 57 63 64 56	83 83 80 74 78	53 56 62 64 57	85 84 73 78 66	53 58 60 58 55
6	66 69 78 64 58	46 40 42 45 40	72 65 71 62 52	49 35 38 39 28	68 70 78 81 61	58 52 54 58 49	70 74 81 74 64	54 43 47 55 40	64 66 72 56 54	48 41 49 35 33	65 68 75 58 60	44 40 45 45 34	63 70 76 72 63	56 43 48 48 48 42	65 69 75 60 60	45 38 50 38 35	67 70 77 64 61	52 45 47 38 34	63 67 68 55 55	41 38 48 40 30
1	67 81 90 88 74	40 49 61 57 54	64 74 75 63 79	28 34 45 51 48	62 73 84 87 82	50 51 57 68 67	70 80 85 91 84	40 44 54 61 64	66 76 72 64 76	32 45 50 51 52	60 77 76 79 72	33 49 54 52 56	65 79 84 90 83	42 42 50 53 53	68 77 77 79 77	36 48 52 52 52 50	66 78 82 89 80	35 47 58 55 56	65 73 63 55 73	30 41 41 41 41
6	77 65 70 67 84	48 57 50 53 61	70 73 70 68 72	47 46 49 40 51	68 82 75 82 85	60 62 62 60 63	77 82 80 79 90	52 51 56 50 57	71 68 67 68 69	46 53 48 47 48	75 70 69 69 82	40 56 45 47 49	65 78 73 75 85	56 55 58 53 57	75 68 69 73 84	43 52 45 51 51	73 72 72 76 86	50 55 54 52 59	71 70 65 65 66	4 5 4 4
l	66 57 64 77 76	54 50 48 46 60	80 68 54 74 72	56 50 45 35 42	76 65 60 73 77	63 55 53 53 56	85 66 61 80 84	65 51 51 45 52	71 56 60 74 63	52 50 49 48 44	64 55 65 76 69	54 48 47 47 56	80 61 58 72 78	65 53 50 45 52	70 55 60 76 65	54 51 46 42 54	74 57 59 79 79	54 52 48 47 58	66 56 64 75 63	50 41 41 41 41
6	79	56 51 59 65 72 69	55 63 76 76 71 80	44 45 46 50 54 56	79 74 86 88 88 96	60 57 57 64 71 71	77 77 91 90 96 95	59 52 52 58 70 67	62 73 90 87 82 84	48 44 60 59 68 63	60 77 89 89 88 88	54 44 59 63 63	76 72 86 87 92 89	61 53 52 60 69 67	63 75 89 90 85 88	51 46 56 64 66 65	70 75 91 92 89 93	54 51 58 66 73 68	54 75 84 86 80 80	4 33 6 5 6 5 8
Mns	75.7	54.0	71.3	45.5	77.4	59.5	80.6	54.0	71.2	50.2	72.8	50.5	76.7	53.7	74.0	50.8	76.4	53.5	69.1	47.

a, b, e, etc., indicate, respectively 1, 2, 3, etc., days missing from the record.
§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR MAY, 1913.

DISTRICT NO. 6, MISSOURI VALLEY.

MONTROSE W. HAYES, District Editor.

GENERAL SUMMARY.

There was great diversity in the weather of the different parts of the district, but in the main the conditions were favorable for farming and other outdoor pursuits. Freezing temperatures occurred in the early part of the month, except in Iowa, Kansas, and Missouri, but owing to the backwardness of vegetation no material damage resulted. In the western portion of South Dakota there was some loss of lambs on account of snow. During the last week of the month unusually hot weather prevailed, and the high temperature record for May was exceeded at many places. There was a period of excessively heavy rain over southeastern South Dakota, eastern Nebraska, northeastern Kansas, extreme northern Missouri, and western Iowa, but in western Kansas and most of that portion of Missouri south of the Missouri River the rainfall was deficient and crops were beginning to show the need of moisture at the end of the month.

A considerable number of severe local storms occurred. On the 14th a small tornado moved from about 10 miles south, and somewhat west, of McCool Junction, Nebr., northeastward to Germantown, Nebr. The storm passed mostly through a farming region, but it struck the northern portion of the town of Seward, destroying between 30 and 40 houses and killing 8 people. The total property loss was estimated at \$200,000. On the same day a tornado occurred at Council Bluffs, Iowa; it passed over practically the same territory that was visited by a tornado last Easter, but it was of small energy and caused only nominal damage. At Lebanon, Mo., a severe hailstorm occurred on the afternoon of the 17th. At 6 p. m. a dark cloud overspread the sky, and in 15 minutes the ground was white with hail; most of the stones were about the size of hazelnuts, but some of them were larger and measured three-fourths of an inch in diameter. The absence of wind prevented the breaking of glass in windows, but gardens and fruits were almost wholly destroyed. Banks of hail from roofs measured 18 inches in depth 24 hours after the storm. None of the characteristics of a tornado was present, and the storm did not extend much beyond the limits of the town. The rainfall amounted to 1.75 inches; most of the hail rebounded from the gauge and was not measured.

TEMPERATURE.

The temperature was below the normal in Montana and the Dakotas; it was practically normal in Iowa, and was above the normal in the remainder of the district. The greatest deficiency was in Montana and the greatest excess was in Kansas. In the district as a whole the areas of excess and deficiency were about equal in extent. There was no well-defined period in which the lowest temperatures occurred, but in Kansas and Missouri the greater number of stations had the coldest day between the 10th and the 20th, and in most of the rest of the drainage area the temperature was lowest at some time during the first 10 days. There was very little damage by

freezing weather, and in Missouri and Kansas the temperature did not fall to 32°. In Kansas, with the exception of May, 1902, this was the only May of record in which the temperature at some station did not go below the freezing point. An abnormally warm period prevailed through most of the last week of the month, and temperatures of 100° or higher occurred in localities of all the States comprising the drainage area, except Montana, Wyoming, and Colorado; at many places a new record for high temperatures in May was established. The highest temperature for the whole district was 107° at Lincoln, Kans., and the lowest was 2° at Norris, Wyo.—in the Yellowstone Park.

PRECIPITATION.

The precipitation was deficient in most of the district, but there was a well-defined region of excess embracing western Iowa, the northern counties of Missouri, extreme northeastern Kansas, and a large part of the States of Nebraska and South Dakota. In the eastern part of this region there were some unusually heavy rains; monthly totals of 9 inches or more occurred in several localities, and there were 24-hour falls of 2 inches at numerous stations. Most of the water was taken up by the soil and there was very little damage beyond a few washouts on roads in Kansas. Outside of the section of country in which the heavy rains occurred there was a very uneven distribution of the precipitation; at a few widely separated places monthly totals were above the normal, but as a rule they were deficient, and in some localities were as low as 10 and 12 per cent of the seasonal average. The rainy days were well scattered through the month, except in the lower part of the district, where the rains after the 21st were light and rather local. Notwithstanding the lack of the normal amount of precipitation in the greater part of the drainage area there appears to have been sufficient soil moisture, except in western Kansas, over the watersheds of the Gasconade and lower Osage Rivers, and along the Missouri River below Boonville, Mo., where there was considerable need of rain at the end of the month.

Snow fell in North Dakota, the Black Hills of South Dakota, extreme western Nebraska, and in all of the foothill and mountain country of the district.

RIVERS.

Mountain streams were rising at the end of the month, as the snow at moderate elevations had begun to melt rapidly. The stages of the Missouri River and its principal tributaries above Kansas City ranged from slightly below to slightly above the normal. Below Kansas City the tributaries were low and the main stream was 1 to 2 feet lower than a 40-year average for the month. At St. Louis the Mississippi was about 3 feet lower than a 50-year average for May. In none of the streams except the very small ones was there the usual fluctuation in the water level.

TABLE 1.—Climatological data for May, 1913. District No. 6, Missouri Valley.

	J 1	100	years	Temp	erature	, in	degre	es Fah	rent	nelt.	Pre	cipitation	, in in	ches.	days,		Sky.		direc	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy 0.01 inch or mo	Number of clear days.	r of pa	Number of cloudy days.	Prevailing wind then.	Observers.
Wyoming.																				Liveritization up at his
rapahoe	Fremont	5,200 3,862	3 14	57.4	+ 0.8	90	281	28	··i	50	0.71	+ 0.61	0.40 1.63	2.0 12.0	8 3	17	24 5	9	sw. nw.	Edw. L. Seymour. O. J. Robertson.
ig Creek Station	Carbon	7,500 6,192	2	49.0		76 i 81	28† 23† 27	28 16 j	5	48i 41	0.05		0.03	0.1	13	0j		2i 12	sw. nw.	U. S. Forest Service. Kirk Baker.
oydurns	Weston	5, 400	3	51. 2		80	221	25 24°	6	410			1.00	1.1	9	121	8 31	101		E. W. Bastian. M. C. Cook.
sperentennial	Natrona	5, 101 8, 074	10	49.4		74	121	27	5	41	0.21		0.07	0.9	9	7	5	19	w.	M. C. Cook. Louis A. Gregory.
evenne	AlbanyLaramie	6,088	42	52.0	+ 1.0	81	12† 27 27	28	2 3	34	2.22	- 0.21	0.55	T. T.	17	4 7b	13	14 6b	nw.	U. S. Weather Bureau.
nugwaterark	Platte	4,320	12 8	53.4	+ 1.7	84b 85	26	28	3	43b 34	1.05 2.10	- 1.32	0.71 0.54	3.2	3	6	14	11	ne. n.	A. H. Woolever. Chas. A. C. Snow.
dy	Sheridan	5,000 8,821	6 5	51.2 38.4			26 26 26 27 26	27 28 28 ^b 28 24 11	3	36	1.57		0.33	4.3	10 10	8	14	9	w.	D. A. Tinkcom. Abe Mills.
ome Lake	Converse	4,793	4	52.6		87	27	23 21	3	45	0.30		0.10	T.	4	21	4	6	w.	Henry C. Miller. Dr. F. H. Welty.
atons Ranch	Fremont	6,909 4,600	8	46.2 51.1			26 26	21 28	3 5	40 35	1.36		0.45	3.5	9 3	13	22	10	w. nw.	Dr. F. H. Welty. F. A. Eaton.
cheta	Sheridan Campbell Carbon	4,200	4								1.95		0.62	T. 1.5	5 8	18	6	7	n.	M. R. Hunter.
k Mountain	do	7,322	8	50.6		80	30	200			T.		T.	0	0	1.			sw.	Wm. Richardson. U. S. Forest Service.
rvay ort Laramie	Natrona Goshen	6,400 4,270	35	49.1 55.2	- 0.3	80 94	26 27 26	20 28 12	15	44	0.80	- 0.78	0.36	1.0 T.	8	10	17 12	5		Frank Jameson. John Hunton.
xpark	Albany	9,015	3			. 681	26	121	3	331	0.35			3.0	3	31	91	101	sw.	U. S. Forest Service.
ermaniaillette	Bighorn	4,312 4,546	7	53.6		86	26	21	2	41	0.58		0.18	0.5	11	12	15	4	nw.	J. W. Peper. M. H. Shields.
orse Creek	Fremont	8,000 8,000	7	41.8		72	27	9	3	35	2.58		0.34	19.0	ii	11	5	15	w.	U. S. Forest Service.
unters Station yattville	Bighorn	4,632	14	56.3	+ 1.6	90	27	27	3	35	0.10		0.05	1.0	2	7	8	16		Wm. Booth.
rehinnear	Niobrara Fremont	5, 100	3	54.1		87	31	24	2	44	1.46 3.71		0.49 3.10	T. 1.0	9 5	10	16 16	6	80.	P. L. Ford. John C. Hays.
irtlev	Niobrara		9	50.6		86	27	25	1	38	1.76		0.70		11	15	7	9	ne.	D. M. ZumBrunnen.
irwin	Park	4,500	4	37.2		57	23	18a	14†	28a	3.79 4.60		0.80 2.60	27.7	17 12	98	15a 10	6a 9	w.	Geo. A. Knowles.
grange	Goshen	4,728	3	54.8		89	27	29	3	44	2.99		1.73		7	18	8	5	n.	Owen Shupp.
nder	Fremont	5,372 7,188	21 22	53.3 49.3	+1.3 + 2.7	83 77	28 26	26 20	3 3 3	37 40	1.20	- 1.70 - 1.31	0.62	4.0 T.	11 7	7 20	16	8 5	w.	U. S. Weather Bureau. University of Wyoming.
olabama Ranch	Carbon	6,878 7,052	11 9	42.4		77	30	11	19	43	0.90		0.30	3.0	7	12	14	5	w.	C. A. Cowdin.
vell	Bighorn	3,825	7																	Mary E. Painter. R. Fred Harrison.
anville	Niobrarado	5,007 5,050	22	52.5	+ 0.8	92	26	25	2	46	1.63	- 1.07	0.87	0	6	4	23	4	n.	D. E. Goddard. L. C. Stoddard.
oorcroft	Crook	4,311 6,000	3 9 12	52.8		921		27ª	3 2	39a	2.06		1.00	T.	11	10a	10a		n.	C. T. McCampbell.
ooreewcastle	Albany Weston	4,319	6	51.6 54.8	+ 2.0	85 92	27 29	27 26 27	3	41 42 39	0.91	- 1.32	0.20	0.4	11 6	2 8 7	19	10	e. nw.	Edwin Moore. Dr. S. W. Johnson.
athfinderinebluff	Natrona Laramie	5,735 5,038	10	54.1 54.8	+1.2 + 1.9	82	26 27†	27 30°	3 1 2	39 41f	0.83	- 1.02 - 0.22	0.37	T.	6 7 9 5	17	23	81	sw.	U. S. Reclamation Service C. L. Beatty.
ine Ridge	Crook		1								1.88		1.01	T.	5	91	51	111		J. E. S. Altaffer.
owellawlins	Park Carbon	4,376 6,748	11	53.6 52.5	+ 2.5	85	26 26	21 21	3	39 42	0.71 0.43	- 1.17	0.16	0.2 T.	10	10	15	17	nw.	U. S. Reclamation Service E. J. Ehrenfeld.
ock River	Albany	6,900									1.02		1.00	T. 0.5	8 3 10	15	14	9	w. e.	Rock Creek Conservation P. Woxen.
ockypoint ratogaven-mile Creek	Carbon		15	52.8	+ 2.8	82	30	24	6	46	0.50	- 1.07	0.50	2.0	1	17	12	2	W.	R. G. Hamilton.
ven-mile Creek	Sheridan	3,790	18	42.8 52.4	+ 1.5	703 87	26 27	16 j 26	1	34 i 42	0.48	- 1.80	0.15	0.9	6 13	93	13	121	w. nw.	U. S. Forest Service. U. S. Weather Bureau.
oshone Dam	Park	5,385	7	52.6		84	26	22	3	40	1.43		0.38	0.5	13	6	13 15	10	w.	U. S. Reclamation Service
oldiers Homeouth Pass City	Johnson	4,635 7,796	21	45.4		74	26	21	6	41	1.11		0.30	0.6	ii	8	17	6	sw.	Joel C. Smiley. John Sherlock.
indancehermopolis	Crook	4,750 4,350	9	50.0 55.2		88	26 27 27	26 28 28	1 3	34 43	2.05		0.80	0.3	7	6	18 14	7 6	e. n.	Geo. W. Ashdown. A. L. Duhig.
nornton	Weston	4,452	1	61.8			28†		4	56	4.01		3.47	T.	4	14	0	17	nw.	Geo. H. Ferguson.
merona	Sheridando	4,448	1 4	51.8	*****	88	26	26	3	-43	1.21		0.29	T. 5.0	10	15	15	7	nw.	W. H. Coleman. O. A. Roode.
heatland	Platte	4,700	2	52.7		94	26	19	3	60	1.92		0.95	1.6	6 7 3 13	111	9	11	w.	C. A. Rockwell.
iants Ranch		7,400 8,500	3 2								0.64			4.0 15.0	13	8 13 10	21 11	7	SW.	Ira G. Wiant. U. S. Forest Service.
orland	Washakie	4.033	6	51.2 54.6		83h	31 27	27	3	36b	2.38 1.13 3.02		0.34	T.	8 9		16	5 3	nw. ne.	Prof. B. C. Buffum. U. S. Reclamation Service
yncoteellowstone Park	Yellowstone Park.	6,200	25	46.0	+ 1.4	86 75	26	28 23 19	3	44 39	2.81	+ 0.90	0.89	6.9	15	5	25 11	15	sw.	U. S. Weather Bureau.
Fairview Dome Fountain	do	7,000 7,220	8 7	44.2			26 26	19 23	15 1†	51	4.01 1.80	*******	1.22	4.5 5.7	11 7	8	10	16 15	s. sw.	U. S. Army. Do.
Colletin	do	7 400	6							1	1.20		0.40	7.0	7 6 2	10	12	9 15	n.	Do.
Lake Yellowstone	do	7,900 7,733	9	41.1 39.6			26 31	10	6 3	35	0.65 2.68		0.60	6.0 15.6	11	8	11 5	18	w. sw.	Do. Do.
Grand Canyon Lake Yellowstone Norris Riverside Sylvan Pass Thumb Tower Falls	do	7,500 6,500	9	40.1		70	26	10	13	43	3.00 1.81		0.70	10.0	8	9 5	11	11 20	w. sw.	Do. Do.
Sylvan Pass	do	7,000	6	43.0			26	19	14	38	3.77		1.94	12.0	14	11	6	20		Do.
Thumb	do	7,772 6,250	7	45.4		78	26	19	3	44	3.03		0.69		14	12	11	8	nw.	Do. Do.
Upper Geyser Basin Montana.;	do	7,395	9	43.2			25	20	21	44						3	7	21	8.	Do.
lel	Cascade	5,200	14	47.8	+ 0.4	80	26	14	1	38	1.66	- 2.07	0.50	5.0	9	8	12	11	w.	Mrs. Bessie F. Burch.
ricultural College	Lewis and Clark	4,700	15 14	48.5	- 1.2 - 0.8	82 82	26 26	23 10	1	37	2.53	- 1.25 - 0.72	0.65	2.0 8.0	14	13	12	16	nw.	J. I. McGraw. C. C. Covington.
lbbld Butte	Teton Lewis and Clark	4, 461	6																	U. S. Reclamation Servi M. W. Alderson.
gtimber	Sweet Grass	6,500 4,072	3 7	52.0		83	27	24	i	38	1.04 2.76		0.42	16.6	10	15	7	11 9	w.	F. A. Severance.
llingsackleaf	Yellowstone Teton	3, 115 4, 260	17	54.3 45.2	- 2.4		27 27 26 26 26 26	28 16 13 10 23 21	3	46	1.49	- 1.51	0.64	4.0	117	12 12	5	14 10	SW. W.	Dean J. Cole. Roy McNeal.
dider Mursery	Jefferson	4,920	17	45.6	- 2.9	84	26	13	1	50	1.90	+ 0.03	0.34	0	14	21	13b	96	n.	U. S. Forest Service. B. B. Lawrence.
owenidger	Carbon	6,060 3,664	6	42.8 52.8		76 88	26	10	3	47	1.41 0.84		0.57	0	10	15 7 22	13	11	n.	B. B. Lawrence.
oadview	Yellowstone		6	52.0		91	26† 27 27 27 27	21	1	42	1.85		0.48	2.0	8	22 18	4	5	SW.	Thos. S. Hunt. U. S. Reclamation Servi
owningsbysteed	Teton		9	46.3 53.1	+ 1.7	77 88	27	11 28	1 3	36 41	1.04 3.06	+ 0.67	0.65	3.0	6 9	18		9 7	w. nw.	Rev. G. A. Linscheid.
isteed	Stillwater. Lewis and Clark		14	51.0	- 0.7	85	27	28 20 23	1	40	2.81	- 0.76	1.08 0.42	4.0		13	19	8	w. nw.	T. H. Busteed. W. I. Kirk.

Table 1.—Climatological data for May, 1913. District No. 6—Continued.

			years.	Temp	perature	, in o	degre	es Fal	arenl	heit.	Prec	cipitation	, in in		days,		Sky.		uirec-	
Stations.	Counties.	Esevation, feet.	Length of record,	Mean.	Departure from the normat.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy 0.01 inch or mo	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind tion.	Observers,
Montana-Continued.																				D. P. P. L.
Cascade Chessman Reservoir		6,275	8 4 9	52.6 42.4 50.2	+ 0.4	87 77 89	26 26 24	22 15 22	1 1 4	39 37 44	2.23 1.98 1.49	- 1.31 - 0.15	0.69 0.52 0.80	6.0 14.5	12 16 4	15 12	22 2 16	5 14 3	SW. SW. W.	Dr. E. E. James. C. D. Scmidt. C. F. Baker.
Chester	Blaine	2,502	14	51.2	- 4.3	86	30	21	i	39	1.94		0.74	0	8	12 12	12	3 7	w.	T. O'Hanlon Co. Cortez Sedgewick.
Clearcreek	Park	5,027	1	49.1		83	26	22	1	41	2.27		0.52	7.0	11	7	11	13	nw.	Frank Taylor.
Conrad	Teton		8	52.4		82	27†	30	61	40	1.22		0.27	5.0	12	16	6 9	9 8	w.	Robert J. Kelly. Orville Harris.
Crow Agency	Big Horn	3,041	30	56.0	- 0.2	90 95	27 27 26	31	3	45 47	1.26	- 1.23 - 0.18	0.70 0.75	10.0	9	7	17	7	w.	Harry Throssell. G. H. Coulter.
Culbertson		3,700	10	52.0 49.0	-3.3 + 0.1	82	26	25 18	1	39	1.50	- 1.36	0.50	0	5	20	7a	3*	W.	Chas. N. Thomas.
Denton	Fergus	3,500	15	51.0 50.2	- 0.8	86	26† 28†	22 32	1		2.54 2.78		0.70	2.0 T.	13	13 14	9	9	W. SW.	P. J. Griesenauer. Prof. J. E. Monroe.
Dry Wolf Camp	Cascade	6,000	4												10	19	6	6	sw.	Mrs. Harriet R. Eveleth. B. C. Protzman.
Dunkirk Ekalaka	Custer		12	51.8	- 1.1	90	27	25	1		1.52	- 0.85	0.33	1.4	11	6	7	18	nw.	William Freese.
Fallon	do	2,208	8	54.6		91	27	25 18	5		1.72		0.75	5.1	17	14	10 5	7 14	W.	Mrs. A. C. Gifford. Lewis Cameron.
FindonFlathead Creek	Gallatin	6,000	2	46.3		. 80	27	13	1	39	2.71		0.74	6.7	12	5	12	14	SW.	Alta Williams.
Forsyth	Rosebud	2,514	33	55.4	- 0.2	96 87	27 27 27 27 27 27 27 26	28 30	5	42				0	8	11	8	12	nw.	H. Mackenzie. Jere Sullivan.
Fort Shaw	Cascade	3,500			- 0.2 - 0.7	85	26 27	19 32	1 41	38	1.06	- 1.00	0.24 0.51	3.0	11 10	14	12 10	15	sw. ne.	U. S. Reclamation Service E. K. Bowman.
FosterGarneill		5,500	4	44.2		. 81	264	14	2	36	2.73		1.10	17.6	9	5	14	7 12	sw.	Thos. E. Scally.
Geyser	Cascade	4,147	16	55.4		. 84	27 27 27 27	30 18	3		3.04	- 0.60	0.88	0	12	11 16	8 7	12 8	w.	I. G. Finfrock. W. M. Leonard.
GlasgowGlendive	Dawson	2,069	22	54.0	- 6.9 - 2.9	93	27	20	5	42	1.34		1.08	T. 2.0	5	8	13 13	10	e. w.	E. C. Leonard. Joseph Berthelote.
Goldbutte	HillCuster		5 7	49.0 52.6		82 90	261	15 28	31		1.10		0.30	T.	11	13 17	6	5 8	nw.	J. S. Rue.
Great Falls	Cascade	3,350	21 5	52.4	- 1.7	86	30	27	1	36	1.77	- 0.83	0.61	7.5	14	13	10	8	е.	S. H. Bauman. Joseph Muir.
Harlowton		2,505	33	51.6	- 2.5	85	27	22	1	34	1.80		0.87	T.	9	9	12	10	e.	U. S. Weather Bureau.
Hebgen Dam	Gallatin	6,700	33	46.0	- 0.2	76 87	26 26	21 24	1	39	2.35	+ 0.05	0.86	T. 4.3	12	1 2	17	13 16	S. SW.	T. I. Carson. U. S. Weather Bureau.
Helena Highwood	Chouteau		6								2,38		0.60	5.4	10	12	9	10	sw.	W. S. McCord.
Huntley Jordan		3,014	7	53.8		90		29	1 5		1.39			0	10	15 20			w. ne.	U. S. Reclamation Service W. C. Henderson.
Knobles Ranch	Hill		. 2							38	1.48 2.26		0.39	1.5	8	13	5 6	13 12	W.	F. H. Knoble. W. W. Watson.
Lewistown	Fergus	3,280	15	50.0	- 1.2	. 83	30	22	1	37	2.40		0.70	8.8	7	16	11	4	W.	E. Wilson.
Lothair Lytle	Hill	3,301	1	50.2		. 88	27 26	11 19	1		1.90			T. 0.5	9	20 18	3 7	8	W.	James H. Whiteley. J. F. Fait.
Malta	Valley	2,240	6	54.8		92	27	20	0 1	42	2.97		0.65	1.2	8 9	130	114	30	w.	U. S. Reclamation Service J. S. Collier.
Medicine Lake Melstone		2,903	1 2	50.6 55.5			27 27	17 28	6		1.42 1.76			0	7	15	12	4	SW.	W. C. Greening.
Mildred	Custer		21					31	5	35	2.20	+ 0.54	0.77	T.	11	11 10	17	3	se. ne.	Leon B. Clark. U. S. Weather Bureau.
Miles City	Madison	4.845	6	52.6	- 0.3	87	28	23			1.94		0.46	0	13	6	8	17	S.	Madison River Power Co.
Olsen Creek Pinegrove	Jefferson	6,345	4								0.96		0.40	0.8	12	10	10	11	W.	Robert Olsen. G. W. White. Mrs. T. Keirmeyer.
Pipestone Pass	Jenerson	7,000	4					05		41	2.24 1.56		0.82	1.0	11 12	12 18	11 2	8 11	w. nw.	Mrs. T. Keirmeyer. C. C. Conser.
Plevna Poplar	Sheridan	2,757 2,020	27	53.7	- 2.4	90 94	27	25 21 21	6	43	1.87		0.70	1.0	4	17	9	5	n.	H. M. Cosier.
Red Lodge	Carbon	5,548	13 14	46.8 51.7	$ \begin{array}{r} -2.4 \\ -1.3 \\ -0.2 \end{array} $	82 85	27 26	21 15	3		1.11 2.14	- 3.60 - 0.11	0.22	2.0 T.	10	13	13	10 10	se.	I. A. Draper. F. B. Elmer.
Renova Ryegate	Musselshell	3,640	3															8		H Scherfenberg. U. S. Reclamation Service
SavageShelby	Teton	2,050 3,276	7	50.4		94	27 28	26 14						4.0		13 15	10 5	11	w. sw.	Olaf C. Fjeld.
Sidney	Dawson		. 2				27	20	i	60	1.80		0.82	T.	8	11	11	9	8.	. Fred W. Arndt. Mrs. H. L. Miller.
Springbrook Sunlit Farm	Blaine		11	53.3 48.6	- 0.7		27	13			1.73		0.55	0		12	9	10	w.	C. R. Noyes.
Sun River Canyon Three Forks	Teton	4,650	1 2	53.8		90	26	22	i	47	1.93		0.41	0	12	23	4	4	w.	U. S. Reclamation Service C. E. Adams.
Utica	Fergus	5,000	18	48.2	-1.9	85	26	22 21	4	37	2.78	- 0.07	0.53	3.5	13	18 19	11 5	7	W.	P. W. Korell. B. M. Bean.
Valentine			6	52.1 49.0		90	27 26	17			1.52		0.31	0.8	9	10	6	15	W.	R. M. Templeton.
Wall Rock Mountain	Broadwater	5,600	4				271	19	1	37	1.57 2.87		0.42	0	10	13	15 12	12	nw. ne.	D. I. Doig. P. O. Balgord.
Wheaton	Custer		1								2.27		0.82	T.	12	17	2	12	nw.	P. O. Balgord. Glen A. White. P. R. Wild.
White Sulphur Springs Wilder	Meagher	5,280	1 2	48.0		93	27	17 22	1 1		1.39		0.31	7.0 T.	117	11	23	7 9	w.	J. Rogers
Wolf Creek	Fergus Lewis and Clark	4,000	9	52.2	+ 1.8	88	26	20	1		2.40	- 0.02	0.60	0	14	5	14	12	w.	A. J. Reed.
North Dakota.	Ollens		6	51.0		93	28	23	3	47	2.09		0.88	1.0	10	6	10	15	nw.	J. C. Hagelbarger.
Aplin	Oliver McKenzie		1																	A. B. Waterman.
Ashley Beach		2,001	16	51.9 50.7	- 1.6		27	17	5		1.91		0.75	0	8	15	8	8	nw. se.	D. J. Steiner.
Belfleld	Stark	2,583	2		- 1.9			22			1.60	- 0.97	0.68	T.	5 6	17	10	14	w. se.	J. C. Hagelbarger. A. B. Waterman. R. C. Miles. D. J. Steiner. E. W. Russell. C. L. Hall.
Berthold Agency Bismarck	Burleigh	1,674	19 39	52.4	- 1.9 - 2.8 - 1.3	93		27 27	6	43	1.99	- 0.97 - 0.51 - 1.27	1.03	T.	9	7	9	15	e.	U. S. Weather Bureau. C. H. McCune.
Buford		1,944	34	52.9	- 1.3	95	27 27 28 27 27	27 18	6	49	2.63		0.54	T.	7 7	14	13	16	nw.	D. J. Basquin.
Dickinson	Stark	2,543	21	50.8	- 1.8 - 0.8	92	27	24 27	51	45	1.78	- 0.80 - 1.31	0.52	2.7	10	2	21	8 18	nw.	L. R. Waldron. O. A. Thompson.
Edgeley	Williams	1,468	12				27	27	6	43	1.63		0.38	0	9	20	6	5	W.	M. E. Uggen.
Fullerton	Dickey	1,439	15	52.0	- 1.5 - 1.5	93	27	28 23	6		2.22	- 0.99 - 0.27	0.52	T.	7	15 11	5 11	11	ne. nw.	F. O. Alin. G. L. Robinson.
Garrison	McLean Bowman		18	52.8		914	28	20	6	504	2.03		0.50	T.	11				nw.	A. O. Lawrence.
Hettinger	Adams	2,253	5	50.6		. 90	27	13 20	6 3	47	2.37		0.82	3.2	9	9 7	13 12	12	nw.	W. R. Lanxon. C. P. Amsbaugh.
Howard (near) Jamestown	Stutsman	1,390	21	51.2	- 2.4	93	27 27 27 27 27	20 29 25	6	43	1.45	- 1.41	0.75	0	8	8	2	21	nw.	Thos. Pettigrew.
Lamoine	Kidder		5 3	50.2		. 90	27	25 25	26	42	0.59		0.29	T.	4	10 15	7	8	nw.	E. V. Virgin. P. E. Truden.
McHenry (near) Marmarth (near)	Eddy		3 4	50.4		. 95	27	25 25	61	43	1.47		0.29	T. 1.9	15	15	11			S. P. Grane.

TABLE 1.—Climatological data for May, 1918. District No. 6—Continued.

			year	Temp	erature	, in (legre	es Fah	renh	eit.	Prec	eipitation	, in in	ches.	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	ne st	aimy or m	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind then.	Observers.
North Dakota-Contd.													1							Million to the Land
farstonmoor	Stutsman Billings		19	49.7		91	27	17	6	41	1.02		0.25	T.	7		• • • • •	••••	ne.	H. H. McCumber. Frank Gotschall.
elville	Foster	1,590	15	53.2 50.4	+ 0.5	100b		256	2†	48b	1.11	- 1.49	0.41	T.	4				nw.	J. P. Kidder.
ottanoleon	Hettinger Logan	1.955	21	49.8	- 3.0	91 94	27	18	3	44	1.82	- 1.29	0.67	T.	10	8 7	5	16	nw.	O. H. Opland. C. J. Hoof.
apoleonew England	Hettinger	2,400	19	51.6 52.0	+ 0.2	91 94	27	23	6	44	2.12 1.52	- 0.13	0.59	0	10	5	14	12	ne.	J. M. Connolly.
ew Rockfordew Salem	Eddy Morton	2,163	8	51.4		90	26 27 27 27 27 27 27	25 ^b 21 18 23 26 25 19	5 3 6 2 5 6	41 44 44 43 38 41	2.30		1.04	1.0	7 9	8	17	15	nw.	J. V. M. Sundberg. J. Christiansen.
range	Adams Billings		4	49.8		91	27		6	41	1.92 2.98		0.54	1.5	10	11 16	10	10 11	nw.	J. E. Goforth. R. E. Sheriff. H. S. Wood.
eele	Kidder	1,857	16	49.5	- 4.4	94 93	27	28 24 25 24	9	38	1.19	- 1.20	1.05	T.	3	8	18	5		H. S. Wood.
urtle Lake	McLeando		15	51.7 53.1	- 0.4	94	27† 27 27	24	6 6	38 44 51 42	1.58	- 0.61	0.43	0	6 5	10	7 16	14	nw.	E. G. Ranum. W. R. Peterson.
illiston	Williams	1,875	34	51.9	- 2.4	93	27	24	6	42	0.85	- 1.41	0.31	0.1	13	8 2	15	14	80.	U. S. Weather Bureau.
South Dakota.						1										1				
berdeen	BrownCharles Mix	1,300	23 14	54.0 57.0	-2.0 -1.5 $+0.3$	94 95	27† 28	26 33	6 3	44	4.05	+ 0.18	1.15 0.48	9	15 13	12 13	3 6	16 12	ne. ne.	D. G. Gallett. I. T. Lothrop.
lexandria	Hanson	1,352	14 25 18	57.8 55.6	+ 0.3	93 92 95	281	33 31 28 25	6 6 9	43	2.57 5.67	- 0.64 + 2.36	2.70	0	10	10	11	10	se.	C. H. Stillwell
mour	Douglas Butte	3,000	18	54.4	- 3.1	95	271	28 25	9	48	2.60 2.13	- 0.79	0.60	0	11	1	20	10	n. se.	T. J. Markey. U. S. Reclamation Service
unt	Hughes Marshall	1,621		53.6		93					4.42		1.50	0	11	0	15	16	nw.	James A. Howard. W. S. Given.
ritton	Brookings	1,636	24	54.4	- 0.8	89	27†	26a 27	19	39a 35	3.12 3.50	+ 0.27	0.75 1.03	0	11	13	8	10	n. ne.	Experiment Station.
ryantmp Crook	Hamlin	1,846	1 20	50.8		916														J. W. Ault.
ntonscade Springs	Harding Lincoln	1,248	20 18	55.4	-3.5 -2.8	91	29	26b 28	6	43b 42	5.62	+0.51 + 1.92	0.77	0.5	10	12	11 7	10	nw. se.	U. S. Forest Service. John H. Holsey.
scade Springs	Fall River Hamlin	3,422 1,685	8	49.6 53.0		944	27 27	23a 26	6	470	2.52		1.07	0	8	10	11	10 23		Fred Noerenberg. M. N. Bradley.
nterville	Turner	1,229	16	55.9		94	29	36	101	41	3.54 5.57	+ 1.64	0.83	T.	15 12	6	11	14	nw.	Frank Williams.
arkttonwood	Clark Stanley		21 5	55.6		94	27	29	3	45	4.40 2.95	+ 1.34	1.12	0	11	9	13	13	e. ne.	O. H. La Craft. Experiment Station.
ster	Custer	5,316	1			34	21			40	2.93		0.97	2.0	13	10	11	10	e.	R. P. Imes.
avistoneadwood	Perkins Lawrence		3	51.2 49.6		86 92	28†	25 24	30	39 43	2.73 3.10		1.00	0.8	6	5 12	19	7	nw.	Dyson Byers. R. E. Grimshaw.
eerfield	Pennington	6,000	4								2.35		0.55	0.6	12	10	11	10	w.	Frank E. Miller.
e Smetowling	Kingsbury	1,726 2,250	20	52.8 54.9	- 2.5	89 95	271	28 30	6 3	40	4.19	- 1.35	1.02	0	11 10	9	11 23 14	8	ne. nw.	W. E. White. M. P. Dowling.
umont	Lawrence	6,195	4	*****							2.36		0.73	0.9	12	8	10	13	nw.	A. B. Wood.
agle Butte	Dewey		1 2	53.7		93	28	25	3	38	2.86 1.99		0.88	T.	10	9	17	5 15	е.	Dr. John F. Chandler. A. H. Peterson.
lk Mountain	Custer Perkins	4,700	4	51.6							1.89		1.26	0	6	9	10 12	10	nw.	A. H. Peterson. James E. Blaine.
llington nglewood	Lawrence	5,723	1 4			90	27	21	6	41	2.02		0.81	1.0	10	9	14	8	nw.	Carl G. Moen. W. P. Wagner. Experiment Station.
ureka	McPherson Gregory	1,884	9	52.4 57.4		92	27	21 32	31	43	1.97		0.50	0	10	4	19	8	n.	Experiment Station.
airfax	Meade	2,560		54.6		94	27†	28	3	45	2.65 2.38		0.80	0	9	17	13	9 16	nw. e.	U. G. Stevenson. Robert R. Saul. Miss Belle Talcott.
ulkton	Faulk Moody		18 23	54.4 55.0	$\frac{-1.7}{-1.2}$	90 90	27 27 29	28 27 32 33 29	6	38	5.14		2.24	0	12	12	7 9	12	ne.	Miss Belle Talcott. D. R. McLean.
landreauorestburgort Meade	Sanborn	1,231	21	57.7	+ 0.1	94	281	33	19	41 48	5.10	+ 0.54 + 2.36	1.80	0	12	9	9	15 13	se.	S. S. Judy
ort Meade	Meade Brown	3,624	30	51.3	- 3.6	94	28	29 25 t	6	34	3.10	- 1.08	1.00	0	7	12	111	18	W.	Post Hospital.
reenmont	Lawrence	6,430	4			94	29			49	3. 61		0.95	0		13	21	6	ne. w.	J. E. Jeffers. H. C. Hoffbuhr.
reenwood	Charles Mix Meade	3,000	19	58.8	- 1.8	95	28†	35	6	45	3.38	+ 0.36	0.90	-0	11	13	8	10	nw.	T. C. Williamson. A. M. Alexander.
ardingrove	Stanley		1	55.7		97	27	31	3	40	4.50		1.55	0	10	6 7	11	14	n.	Mrs. Laura Sinclair
ardy Ranger Station. arveys Ranch	Lawrencedo.	6,600	3					•••••			2.85		0.83	T.	7	7	12	12	8.	Mrs. Mary M. Schmidt. Jerome Harvey.
ermosa	Custer	3,278	7	54.5		93	26	26	2	56	3.73		0.70	0	15	10	12	9	n.	
ighmoreopewell	Hyde Stanley		20	54.6 54.6	- 2.1	90 96	28 27	28	3 3	38 43	4.56	+ 2.24	1.49	0	12	9 5	15	16 11	nw. ne.	E. R. Myers.
oward	Miner Hand	1,564	21	53.6d 54.4	- 3.0	904	29	284	6	45d	4.12	+ 1.42	1.45	0	15	0	13	9	se.	J. J. Cox.
uron	Beadle	1,306	31	55. 2	- 2.1	93 92	27 27 28 27 28 27 27 27	26 28 24 284 24 24 32	6	45	3.63 4.53	+ 0.30 + 1.61	1.15	0	15	10 7 7	10	11 13	ne. nw.	Experiment Station. E. R. Myers. J. J. Cox. M. A. Shuster, jr. U. S. Weather Bureau.
swichadoka	Beadle Edmunds Stanley	1,530	16	54.3 54.9	- 0.9	98a	28	24ª 29 30ª	6	45a	3.00	- 0.92	0.62	0	10	7	12	12	nw.	H. J. Dailey. Rev. D. S. Brown. R. C. Van Horn.
ennebec	Lyman. Brule.	2,467 1,689	20		- 2.1	95 97	28	30a	17	41 46a	2.65 1.90	- 0.40	0.57	0	8	15	10	12	nw.	R. C. Van Horn.
imball	Brule	1,788	27	55.8	- 2.1 - 0.9 - 0.9	94	27	33 25	3† 2† 6 1	40	3.06	+ 0.58	0.52	0	10	17	4 7	10	nw.	G. D. Rose. E. L. Ebbert.
ad	Lawrence	5, 200	16	49.4	- 0.9	88	27	25	- 1	41 31	5.68 1.99	+ 2.31	1.40	3.0	12 10	10	18	14	nw.	E. F. Irwin.
emmon	Perkins	2,345 1,447	12	58.2				31			5.00		1.08							J. C. Foot. M. H. Dains.
arston	Sully		5	51.2	- 0.2	95 89	29 29	23	8	41	3.55	+ 0.95	0.89	0	13	5	16	10 18	nw.	J. W. Kozel.
eadow	Perkins	1,300	18	50.4	Sameras	90	29 27	24	3 6 5 1	43 37 42	2.17 4.42		0.75	T.	10	10	11	10	nw. se.	Hillard Wybenga. Frank A. Howe.
nno	Hutchinson	1,325	16	57.4	- 1.6	93	27†	33	5	45	5.03	+ 1.29	0.97	0	13	14 13	8	12	ne.	J. S. Headley. Miss Mary Patridge.
ilbankitchell	Grant	1,148 1,312	22 19	56.6	- 2.2 - 1.6 - 3.0 - 1.1	92 93	27 28†	24 26 33 24 32 26 28	1	40 39	3.97 4.45	+ 0.35	1. 13 0. 80	0	12	11 12	6 7 7	13 12	nw.	Miss Mary Patridge. C. W. Downey.
obridge	Walworth		2 5	90. 1		94	271	26	6	38	2. 27		0.50	0	9	14	9	8	nw.	Thomas J. Morris.
urdo	Lyman Fall River		21	56.6	- 1.7	94 94	27†	28 28	3	40 52	3.00	- 0.44	1.00	0	5	12	11 18	8	e. ne.	L. C. Bode. J. E. Strouse.
naka	Faulk	1,600	1								4.05		0.99	0	18	7	16	8	ne.	H. P. Camp.
nida man	Sully Butte	1,921 2,920	7	55. 44		95	27	341	1†	46 i	3.58 1.85		1. 25 0. 48	0	11	10 12	3 12	18	nw.	E. E. Heywood. U. S. Reclamation Service
ttumwa	Stanley		5	54.0		94		274	3	434	3.86		1.53	0	7	11	6	14	е.	J. W. Bretz.
arkstonearl Creek	Hutchinson Beadle	1,400	1			• • • •					3.54		0.62	0	12 10	9	9	13		W. C. Rempfer. Charles Miner.
erre	Hughes	1,572	21	56.1		96	28 27	31	3	36	3. 75	+ 1.62	1.92	0	10	7	8	16	nw.	U. S. Weather Bureau.
ne Ridgeankington	Shannon	1,528	19	55.9		92	27	26	3	44	3.35	+ 1.20	1.12	0	10	11 8	12	8	ne.	W. A. Spencer. W. G. Andrews.
ollock	Aurora		7 25	53.0		93*	29	18a	3	48b	2. 25		0.54	0	11	8 7 8	12	15	nw.	J. H. Jones.
apid Cityedfield	Pennington Spink	3, 251 1, 295	25 15	52.6	- 1.6	91	28	30	1 3	35	3.24	+ 0.33	0.82	T.	17	8	8	15	n.	U. S. Weather Bureau. A. S. Hall.

Table 1.—Climatological data for May, 1913. District No. 6—Continued.

			rears.	Tem	perature	e, in	degre	es Fal	hrenl	heit.	Pre	cipitation	ı, in in	ches.	days,		Sky.		direc-	7
Stations.	Counties.	Elevation, feet.	Lengthiof record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind c	Observers.
South Dakota-Contd.																				
Rochford	Todd	1, 400 1, 202	3 19 7 5 22 7 2	55. 0 51. 8 53. 9 56. 2 54. 2 50. 8		92 88 91 94° 88° 92	271	27 28 23 33* 34* 22	3 6 3 6 1†	36b			0.74 1.07 1.13 0.73 1.04	2.5 T. 2.0 0 0	10 13 12 7 18	5 6 8 10 13 12	12 17 14 11 2 4 10	15 9 11 12 19 14 9	nw. nw. nw. nw. s. nw.	Mrs. M. E. Deffenbaugh, W. M. Ege. O. O. Floren. Miss Gertrude Hall. J. H. Bechtold. George Gray. M. S. Eberhart.
Spearfish	Hyde	3, 647 1, 840 2, 163 1, 418	24 9 3 1 16	52. 2 54. 0 54. 0 57. 8	- 1.7 - 2.1	92 93 95 96 93	27 27 29 27† 28 28 29	22 30 18 23 32	3 6	35 46 44 43	2.78 3.72 2.05 3.09 6.51	- 0.72 + 2.67	1. 21 1. 15 0. 70 0. 64 2. 38	0 0 0 0 0	7 11 6 10 15 11	9 8 20 4 11 2	14 8 0 20 9 16	8 15 11 7 11 13	e. nw. nw. ne. nw.	A. E. Johnson. Rev. A. Mattingly. E. J. Lehman. W. E. Prann. F. F. Chladek.
Vale	Clay	1,646	5 12 3 19 20 4	52.0 54.4	- 0.1 - 2.5	92 94 90 90	27 29 27† 28†	20 35 30 32a		48 38 42 38a	5.35 3.07	+ 0.73 + 0.55 + 1.72	0.92 1.88 0.76 0.90 1.37 0.81	0 0 0 0	13 11 14 14 8	16 11 11 15 8	6 11 6 8 8 11	9 9 14 8 15	nw. e. ne. n. e.	U. S. Reclamation Service. Prof. E. C. Perisho. George Waters. Robert Q. Wood. R. C. Zimmerman. Mrs. G. A. Rogers.
Winner	Mellette	1, 234	39	56. 7 56. 6 58. 2	- 1.8	102 94 96	28 27† 29	30 27 38	2 3 10	39 40 38	2. 45 2. 78 5. 87	+ 1.97	0. 46 0. 86 2. 20	0 0	12 9 15	8 10 4	11 10 14	12 11 13	se. ne. nw.	J. W. Barnum. Fred E. Kirch. U. S. Weather Bureau.
Pipestone	Pipestone	1,710	12	54.8	- 0.8	87	29	30	6	35	4.30	+ 0.55	1.33	0	17	5	17	9	ne.	A. L. Donn.
Arriba Auldhurst. Bennett (near). Boulder. Burlington. Cassells. Castle Rock Cheesman. Cheyenne Wells. Corona. Denver. Edgewater. Estes Park Fish Hatch. Fort Collins. Fort Lupton. Fort Morgan. Frances. Frys Ranch. Georgetown Greeley. Frys Ranch. Hartsel. Havthorne. Holyoke (near). ddaho Springs. ulesburg. Kersey. Laporte. Leroy (near). Longmont. Longmont. Longmont. Longmont. Longs Peak (near). Merino. Moraine. Platte Canon. St. Cloud. Sedgwick. Spicer (near). Sterling. Waterdale. Wray. Yuma.	Teller Arapahoe Boulder Boulder Kit Carson Park Douglas Jefferson Cheyenne Grand Denver Jefferson Larimer do Weld Morgan Boulder Larimer Clear Creek Weld do Park Boulder Fark Boulder Larimer	5, 484 5, 347 4, 160 8, 445 6, 220 6, 820 11, 660 5, 75 5, 450 8, 900 4, 919 7, 550 4, 649 5, 745 7, 543 3, 445 7, 543 8, 982 8, 983 8, 983	7 3 5 17 10 3 21 10 21 1 6 41 3 3 4 3 11 22 2 4 4 4 17 13 22 24 12 18 8 3 14 10 17 22 22 22 22 22 22 22 22 22 22 22 22 22	56. 4 61. 3 55. 4 60. 0 33. 2 57. 5 56. 1 54. 8 60. 0 54. 4 44. 4 46. 1° 55. 9 55. 9	+ 0.8 + 0.2 + 2.6 + 2.4 - 2.2 + 2.7	87 96 86 80 94a 53 91 87 83 92 71 78 90 87	31 29 29 29 29 31 26† 29 29† 31 31		3 2 4 4 4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	57 39 41a 25 38 42 40 43 43 43 43 44 45 61 36a 40° 53 40° 53	3.09 1.68 2.33 1.93 2.09 2.72 2.56 1.50 0.59 0.62 1.70 2.92 0.62 1.73 0.50	- 1.08 - 0.98 - 2.16 - 1.58 - 1.05 - 0.86 - 0.84 + 0.44 - 0.33 + 0.62 - 1.55 - 1.72 - 1.22 - 1.63 - 2.73 + 0.08 - 1.05		1.0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		24 6a 20 5 12 11 15 6 21a 15 14 10 7 8 8 16 14 0a 17 17 15 16 8 11 11 17 17 18 16 11 17 17 18	6 19a 7 20 17 12 9 9 22 5a 14 14 10b 10 25 7 17 17 10 9 26a 11 10c 12 15 10 10 7 7 11 15 9	4 6 2 5 7 7 3 4 a 4 a 7 8 17 10 11 b 3 5 5 18 6 5 5 8 4 a 4 a 6 a 3	ne. se. e. nw. sw. nw. se. e. sw. sw. sw. sw. se. s. w. sw. sw. sw. sw. sw. sw. sw. sw.	C. A. Creel. Harry Dunmire. J. F. Egelhoff. Prof. J. A. Hunter. W. P. Davis. Harriet M. Cassell. Thos. P. Vaughan. J. G. Thornburg. J. W. Adams. U. S. Weather Bureau. Do. N. P. Levin, M. D. G. H. Thomson. Colorado Agricultural College R. W. Benedict. Great Western Sugar Co. C. W. Barry. Norman W. Fry. H. L. Corbett. Burton Reynolds. D. M. Porter. Emily Kleinknecht. B. E. Chesebro. A. C. Cauble. J. J. Willis. Great Western Co. Do. P. A. Taft. Chas. Green. Great Western Sugar Co. Enos A. Mills. Great Western Sugar Co. Chas. A. Chapman. Denver Union Water Co. Miss Guilla Sivers. Edwin Lewis, M. D. Frank W. Murphy. Great Western Sugar Co. P. H. Boothroyd. J. C. Tuomey. Matthew Harr.
insworth Ibion Illiance Ilma readia readia shland shland shvin tkinson uburn urora eatrice eaver City ellevue ellevue elenkelman	Brown Boone. Boone. Boxbutte. Harlan. Valley. Wheeler. Saunders. Sherman. Holt. Nemaha. Hamilton Gage. Furnas. Sarpy. Dundy.	2,521 1,747 3,968 1,939 2,186 1,100 2,061 2,108 1,051 1,792 1,235 2,147 1,210 2,968	8 18 22 18 13 2 29 21 6 21 21 23 22 32	62. 2 61. 7 62. 4	- 1.6 + 1.8 - 0.3 - 0.1 + 0.6	93 100 87 102 96 98 98 100 97	28 29 27† 29 29 29 29 29 29 29 29	30 32 26 35 38 38 37	3 23 3 6 6† 11 3† 10		1.65 2.52 3.02 5.30 8.06 3.10 5.26 6.67 5.90 6.98 1.99 5.58	+ 0.13 - 1.07 - 0.74 - 0.42 + 3.75 + 0.15 + 1.12 + 1.79 + 2.55 - 0.79 + 1.40	1.80 1.81 1.10 1.86 1.36 1.27 2.88 1.84 2.25 1.85 2.31 3.32 0.83 2.05	0 0 T. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	12 11 4 7 8 15 13 8 11 11 10 8 6 12	0 7 19 18 8 16 16 17 10 19 16 12 19 12	10 7 6 10 8 7 8 8 7 6 11 3 8 11	21 17 6 3 15 8 7 6 14 6 4 16 4 16 4 8	n, s, ne, s, se, n, ne, se, nw, s, se, se, se, ne, ne,	John M. Cotton. F. M. Weitzel. J. A. Keegan. W. A. Sharpnack. J. L. Owen. A. E. Johns. Dr. A. S. Mansfelde. F. Rein. C. J. Wilson. J. R. Huffman. A. D. Travis. H. E. Palmer. T. M. Davis. A. A. Tyler. R. D. Druliner. W. F. Dobbis.
Sertrand Slair Slake Sloomfield Sradshaw Srewster Sridgeport Broken Bow	Phelps. Washington. Garfield. Knox. York. Blaine. Morrill. Custer. Thayer.	2,515 1,122 1,715 3,658 2,477 1,583	5 18 1 6 15 1 17 19 2	58.0	+ 0.5 + 2.6 - 0.3	96 93 98	29 29 26† 28	36 30 27 32	6 6 3 5†	36 46 49 47	2. 28 6. 09 3. 65 6. 72 4. 10 3. 02 2. 09 2. 76 4. 96	+ 1.25 - 0.93 - 0.36 - 0.38	1. 54 1. 42 1. 02 3. 50 1. 16 0. 90 1. 18 0. 65 1. 40	0 0 0 0 0 0 0	5 11 8 13 11 15 5 11 7	20 12 13 7 10 5 13 17 18	7 8 13 10 17 16 9 2	11 5 14 4 10 9 12 4	ne. sw. nw. nw. ne. se. n. se.	W. F. Dobbin. D. C. Van Deusen. H. C. Mead. Dr. L. C. Bleick. E. C. Roggy. W. S. Turnbull. R. H. Willis. R. V. McCall. Henry Middendorf.

Table 1.—Climatological data for May, 1913. District No. 6—Continued.

			years	Temp	erature	e, in	degre	es Fal	hrenl	neit.	Pre	ripitatio	n, in i	nches.	days,	å	Sky		direc-	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day	Number of clear	Number of part- ly cloudy days.	S umber of	Prevailing wind di	Observers.
Nebraska—Continue																		-	-	
Burge. Burwell. Butte. Cairo. Callaway. Cambridge. Columbus. Crete. Culbertson. Curly. Curlis. Dalton. David City. Du Bois. Dumas. Elm Creek. Elsie. Ericson (near). Ewing. Exeter Fairbury. Fairmont. Falls City. Fort Robinson Franklin. Fremont. Fullerton ieneva ienoa. iordon ioosper. ioosper	Cherry	2,674 2,180 1,951 2,555 2,255 2,255 2,255 2,255 2,255 2,255 2,255 2,255 3,382 2,029 1,607 1,619 1,629 1,629 1,629 1,629 1,629 1,63 1,203 1,629 1,63 1,203 1,63 1,203 1,63 1,203 1,584 3,550 2,555 1,305 1,203 1,584 3,550 2,555 1,305 1,203 1,584 3,205 2,029 1,63 3,352 2,029 1,63 3,45 2,029 1,63 3,45 2,029 1,63 3,25 2,029 1,305	8 8 19 7 4 4 20 6 6 20 30 26 5 5 16 22 1 3 8 8 5 5 5 5 5 5 10 11 11 5 5 5 6 20 22 1 1 13 11 5 5 6 20 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6	57. 2 57. 6 60. 4 62. 4 62. 6 53. 6 63. 6 63. 6 63. 6 65. 2 60. 6 60. 8 60. 8 60	1.1	94 94 101 101 100 86 98 98 98 99 99 99 99 99 99 90 101 103 109 101 102 101 102 101 102 101 102 101 103 101 100 100 100 100 100 100 100	28 27† 28 29 29 29 29 29 29 29 29 29 29	28 30 31 34 36 36 36 36 36 36 36 37 38 38 38 38 38 39 29 29 33 38 36 36 36 36 36 36 36 36 37 38 38 38 38 38 38 38 38 38 38	3 3 4 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	47° 46 46 47 39 32 50 444 44 44 44 44 44 44 44 44 44 44 44 4	2. 20 2. 20 2. 20 2. 26 3. 3. 55 4. 48 3. 5. 50 3. 5. 50 4. 60 3. 5. 75 5. 75 5. 75 5. 75 5. 75 5. 75 5. 75 6. 92 6. 93 6. 9	+ 1.42 - 1.90 + 1.91 + 0.60 - 1.16 - 1.09 + 1.19 + 0.81 + 1.78 + 0.81 + 0.81 - 0.61 + 0.81 - 0.61 - 0.73 - 0.73 - 0.74 - 0.73 - 0.31 - 0.25 - 0.89 - 1.16 - 0.25 - 0.89 - 1.16 - 0.25 - 0.89 - 1.16 - 0.25 - 0.89 - 1.17 - 0.25 - 0.89 - 1.16 - 1.08 - 0.62 - 1.17 - 0.25 - 0.89 - 1.16 - 1.08 -	0. 70 1. 26 0. 20 0. 2. 43 0. 33 0. 33 0. 34 0. 35 0. 42 0. 42 0. 42 0. 44 0. 42 0.	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 13 13 13 17 77 71 12 111 17 7 7 12 111 111 17 12 9 15 8 12 10 9 9 7 10 10 1 8 9 9 7 10 10 15 11 8 11 13 13	11 11 10 19 5 14 17 7 11 18 17 18 18 17 17 18 18 17 17 17 18 18 17 17 17 18 18 17 17 17 18 18 18 17 17 17 18 18 18 11 11 18 18 17 17 17 18 18 18 11 11 18 18 17 17 17 18 18 18 11 11 18 18 18 18 18 18 18 18	10	8 8 13 12 7 11 10 6 10 10 8 8 8 8 11 8 10 7 12 18 10 7 12 18 10 7 14 18 10 7 14 18 10 7 14 18 10 8 11 18 10 8 11 18 10 8 11 18 10 8 11 18 10 8 11 18 10 8 11 18 10 8 11 18 10 8 11 18 10 8 11 18 10 10 10 10 10 10 10 10 10 10 10 10 10	n. e. s. se. se. s. ne. ne. ss. se. s. n. ne. ss. se. s. n. ne. ss. s. ss. s. n. ne. ss. s. ss. s. n. ne. ss. s. ss. s. ss. s. n. ne. ss. s. s	H. A. Davis. W. J. McMullen. W. Whitla. Elliott Harrison. J. H. Evans. Chas. Jensen. A. L. Rush. Doane College. Homer L. Nye. A. E. Hann. Dr. S. R. Razee. J. C. Frandsem. S. Clingman. O. M. Backus. Emile Raes. E. L. Sutton. J. F. Brittain. J. A. Bodyfield. G. H. Benson. Frank Ainsworth. W. F. Cramb. C. B. & Q. R. R. Co. Dr. J. C. Yutzy. Post surgeon. A. R. Peck. Ernest Hahn Dr. F. W. Johnson. F. M. Flory. F. W. Parsons. G. F. Williams. E. H. Stoll. Dr. W. J. Bartholomew. E. A. Barnes. Anson K. Holmes. W. E. Morgan. J. L. Pember. U. S. Forest Service. D. E. Ewing. Bert Gregg. C. B. & Q. R. R. Co. Jos. M. Crosby. A. Kadlecek. Dr. C. M. Easton. A. S. Enyeart. T. L. Jones. G. F. Palmer. Mrs. M. R. Lloyd. C. B. & Q. R. R. Co. Dr. W. H. Heine. Mrs. W. P. Miller. Robt. Malcolm. City Engineer. F. J. Bellows. Mrs. C. Arter. Geo. W. Hulse. Robt. Chadwick. U. S. Weather Bureau. R. T. Kidney. Harriet Hayhurst. C. G. Coglizer. L. L. Slagel. Dr. F. A. Long. John Ellis. G. C. Stufft. J. A. Amsberry. A. Kennedy. John Ellis. G. C. Stufft. J. A. Amsberry. A. Kennedy. John Ellis. G. C. Stufft. J. A. Amsberry. A. Kennedy. John Ellis. G. C. Stufft. J. A. Amsberry. A. Kennedy. John Ellis. G. C. Stufft. J. A. Amsberry. A. Kennedy. John Ellis. G. C. Stufft. J. A. Amsberry. A. Kennedy. John Ellis. G. C. Stufft. J. A. Amsberry. A. Kennedy. John Ellis. G. C. Stufft. J. R. Amsberry. A. Kennedy. John Ellis. G. C. Stufft. J. R. Amsberry. John Ellis. J. R. Weather Bureau. J. S. We
mouth. dum. eenna. Cloud. Libory. Paul. tee. typer tsbluff ard	Rettn	3,060 6 1,419 9 13 2,028 36 1,687 20 1,887 18 1,796 18 1,357 21 3,888 26 1,435 23 1,000 28	59. 63. 57. 60. 65. 61. 60. 61.	23 6 + 0. 2 + 0. 4 + 3. 1 - 0. 5 - 0. 7 + 2. 9 + 1.	95 9 96 8 99 2 100 2 102 8 99 103 4 91	29 29 30 28 29 29 29 29 29 28† 29†	37 27 36 31 34 35 36 34 33 25 36	6 6 6 6	45 32 i 42	6. 77 3. 02 3. 94 4. 83 4. 59 5. 19 3. 35 3. 12 7. 74	+ 1 + 0 + 1 + 1 + 0 + 1 + 1 - 1 + 0	. 88 3. . 0.6 . 84 1.3 . 44 2.6 . 35 1.3 . 78 1.7 . 03 2.1 . 61 1.4	30 99 39 33 30 73 0 17 13 60	0 10 0 9 0 11 0 10 0 9 0 8 0 9 0 12 0 6 0 9 0 9 0 8 0 9 0 12 0 6 0 9 0 8	14 17 13 11 18 8 11	6 8 8 14 7 14 15	11 6 10 6 6 9 5	se. nv. s. se. ne. sw. s. nw. se. nw. se.	V. E. A. R. R. R. A. R.	Chos. Coles. Chos. Coles. Chos. Coles. Chos. Coles. Chos. Chos. Chos. Chos. Chos. Chos. Chos. Chos.

Table 1.—Climatological data for May, 1913. District No. 6—Continued.

			years	Temp	erature,	in de	egree	s Fahr	enhe	eit.	Preci	pitation,	in inc		days		šky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind tion.	Observers.
Nebraska—Continued.													0.0*		8	12	9	10	nw.	C. L. Phelps.
pringviewtanton	Keyapaha Stanton Hitchcock Nuckolls	1.472	22 23 18	58.4	- 0.5 - 1.2	94 98	28 29	32 32	3 24	40	$\frac{2.79}{1.37}$	$\begin{array}{c} -0.31 \\ -1.01 \\ -1.03 \end{array}$	0.95 1.06 0.70	0 0 0	5 6	7	18	6	se.	Alfred Pont. Miss Stella Vennum
uperioryracuse	Nuckolls	1,574	28 21	63. 2	+ 1.4	98	29	35	6	38	6.85	+0.70 + 2.49	1.75 3.22	0	8		9	6		F. V. Bishop. W. N. Hunter.
able Rock	Pawnee	1,023	26 35								6.87	+ 2.62 + 2.01	3.00	0		20	13	5 7	S.	E. D. Howe. L. E. Pratt.
ecumseh	Johnson Burt		23	60.8	- 0.1	98	29	38	6	36	8.08	+ 3.73	1.58	0		9	1	21	n.	Dr. A. D. Neshit.
ekamahniversity Farm	Lancaster Cherry Saunders	9 619	25	56.0	- 1.9	94	28	30	3	39	3.13	- 0.20	0.97	0	16	12	8	ii	ne.	S. W. Perin. U. S. Weather Bureau. W. T. Mauck.
alentine	Saunders	1, 187	10	30.0	- 1.9						6.85	+ 2.41	1.79	0	111	13	3	15		W. T. Mauck.
akefield	Dixon	1,387	19	58.8		97	29 29	33 34	6	40 37	5. 20 5. 19	+1.18 + 0.81	1.75	0	12	8 12	9 7	14	s. n.	I. H. Weaver. G. A. Dudley.
Valthill	Thurston Buffalo	2,299	12	59.0		94	20	94		31	2.87		1.52	0	7	16	9	6	S.	R. E. Swift.
Vauneta	Chase	2,935	15							40	1.25	- 1.22	0.40 1.83	0		13	6	12	S.	C. D. Fuller. S. W. Orton.
Veeping Water	Cass	1,080	35 28	60.8	- 0.2	102	29 29	34 38	6 6t	40	5. 13 5. 23	$+0.92 \\ +1.45$	1.78	0	8	9	13	9	n.	J. C. Elliott.
Viener	do	1.380	17								4.39	+ 0.01	1.23	0			3 7	7	sw.	F. C. Evans. A. T. Giauque.
ork	York	1,633	26	62. 2	+ 0.7	101	29	35	6	38	3.30	- 0.89	1.11	0	1 9	1.			34.	A. T. Giadque.
Iowa.	Tinion	1 010	19	61 1	1.0	88	29	41	61	27	6 51	+ 1.62	1.55	0	12	11	11	9	sw.	N. W. Rowell.
Afton	Union Wayne	1,212	. 11	61.1	+ 1.2	91	29†	41 38	11	35	4.30	- 0.21	0.88	0	13	13	10	8	S.	Maude Chase.
lton	Sioux	1,305	8	57. 2		1 95	29	33	6	39 35	4.79		1.17	0	16				ne.	W. S. Slagle. Thos. H. Whitney.
tlantic	Cass	1,301	19	58.8	+ 2.2	99	29 29	37 38	6†	34	6.82	+ 2.44 + 2.13	1.55	0	12	9	5	17	SW.	Thos. H. Whitney. Geo. E. Kellogg.
Bedford	Taylor		. 13	61.8	-1.1 + 0.8	93	29	35	6	40	4.66	- 0.59	1.82	0	14 16	11	8			E. E. Healy. Gordon Peacock, jr.
enterville	Appanoose	1,013	18	62.6	- 0.9	91	29	37 36	11	35 38	4.37	- 0.22	1.10	0	9	10	13	8	se.	C. C. Burr. A. S. Van Sandt.
haritonlarinda	Page	1,009	23	60.8	- 0.4	97	29	36	6	39	5.77	+ 0.93	1.38	0	15				sw.	A. S. Van Sandt.
orning	Adams Wayne	1,117	21 20	62.6	- 0.9 - 0.4 - 0.3 + 1.3	93 92	29 29†	34 37	6	39	9. 24 4. 55	+4.41 -0.12	0.93	0	16	10	9		se.	May C. Miller.
orydonouncil Bluffs	Pottawattamie Union	990	3	01.0		. 31	29	34	6	37	5.37	******	1.74	0	11 13	12	10		se.	Jerome Smith. May C. Miller. B. W. Crossley. O. J. Colby.
reston	Union	1,312	8	59.4		92	29	38	6	37	6.76	+ 3.92	1.42	0	12	16	5	10	se.	J. H. Reppert.
umberland	Crawford Montgomery	1,180	19			93	29	34	61	34	6.73	+ 2.62		0	11	8	12			J. H. Reppert. W. C. Van Ness. C. H. Westrope.
Clliott	Montgomery		21	61.4	+ 1.0	94	29 29 29	35 39	23	33	6.12	+ 1.28	1.90	0	12	10	1 15	6	ne.	Frank A. Ward.
reenfield	Adair	1,182	14	59.2	+ 1.0 - 1.1	95	29	34	6	36	7.63	+ 3.48	1.78		12	11		13 12	se. nw.	C. A. Reynolds.
nwood	Lyon Dickinson	1,474	9	57.5			29 29	31	6 2	41 35	5.89			1	7	14	6	11	S.	C. H. Westrope. Frank A. Ward. C. A. Reynolds. F. B. Hanson. A. E. Woodruff. T. J. Fitzpatrick. G. A. C. Clarke. J. L. Hurley. Morrie Gavdoor.
ake Parkamoni	Decatur. Plymouth	1,120	6	62.4		. 91	31	40	2 71 01	33	3.14		. 0.60		14	19	0		se.	G. A. C. Clarke
e Mars	Taylor	1,224	17		$\frac{-1.1}{+0.4}$	92 90	29 29	35 38	23	32	5.73	+ 1.71 + 1.01	2.40 1.70	(11	15	8	8	S.	J. L. Hurley.
enoxeon	Decatur	1,120	11	62.7	- 0.2	92	29 29 29	38 39	23 11	36	6.08	+ 1.63	1.10		14	111		14 12		Morris Gardner. Geo. H. Gibson.
ittle Cierry	Harrison	928	46	60.8		98	29	34 35 39 39	10		6.60 9.34	+ 5.21	2.61	(10	8	12	111	SW.	Glenn H. Stern.
Logan	Ringgold	1, 236	20	62.0	+ 0.	91	29† 29	39	10	35	4.23	- 1.53 + 1.36	1.33	(18	13		11		Alex. Maxwell. M. T. Ashley. J. M. Darby.
Murray	Clarke	1,216	122		+ 1.6	93	29	39	10	34	6. 81	+ 1.30	1.73		16			14		J. M. Darby.
Northboro	Sac	1,356	16	60.1	- 0.3	97	29 29 29 29 29	37 37	10	37	6.51	+2.53	1.65	(12	12				E Starner.
Dnawa	Monona	1,051	13	62.2	-0.4 + 0.7	102	29	39 34	6	37	5.87	+ 0.29 + 0.67	1.90			11	11			C. G. Perkins. H. H. McCartney. W. C. Wyckoff. Geo. Aupperle.
Pacific Junction Rock Rapids	Lyon	1,358	14	54.6	- 2.0	98 92	29	32	6	40 40	4.57	+ 1.18	1.25	(11	. 6	12	10	S.	W. C. Wyckoff.
Sheldon	O'Brien	1.422	15 20	55 1	- 2 2	93	29	21	6	39	6.35	-0.10 + 2.39			14					H. G. Doolittle.
SibleySioux CenterSioux City	Sioux	1,212	. 14	56.6	- 2.2 - 1.7	92	29	36	10	31	4.82	- 0.03	1.20	() 10	12	1 8	11	e.	J. de Ruyter. U. S. Weather Bureau
	Woodbury	1,135	24	58.8	- 2.0	97	29	38	6	35	4.71	+ 0.34	1.52		14		10	14	S.	S. Gillespie.
Spencer	ClayFremont		. 16	63.2	+ 0.9	94	29	35	6		6.44	+ 1.24 + 3.46	3.42) (C. R. Paul. H. L. Felter.
Washta	Cherokee	1,157	15	57.9	+ 2.1	95	29	30	6	39	8.31	+ 3.40	2.90	'	16	12	1	14	n.	II. D. Petter.
Kansas.																				
Abilene	Dickinson	1,157	18			100	29	38		41	2.10		0.80		0 10				se.	T. W. Sherman. Prof. J. O. Hamilton.
Agricultural College	Riley		11	66.0		. 103	29	35	6		0.75	-2.48	0. 25		0 1	5 13	10	6	8.	H. A. Storer.
Atchison	Atchison	973	22	66.4	+ 2.6	97	29	41	10	36	6.02	+ 0.72	1.64		0 13	2 24	1	5 6		Prof. E. M. Stahl. F. A. Slack.
Beloit Blakeman	Mitchell			65.6	+ 2.3	99	29 29	38 34	15		0.90	- 1.48	0.32		0 3	8 14	1 10	7	se.	F. A. Slack. C. L. Henderson.
Blue Rapids	Marshall	1,105	1 7								4.26		. 1.0	1	0 1	1 2	1 1	0 6		M. Norton. N. S. Hazen.
Centralia	Nemaha Dickinson		3 4	64.2		. 96	29	38	6	37	4.05									E. F. Halbert.
Clay Center	Clay	1,203	3 12	66. 6	+ 3.1	105	29	36			5.30		1.78		0	7 13		17		O. L. Slade. G. H. Kinkel.
Colby Concordia	Thomas	3, 138	3 25	62.9	+ 2.7	102	29 29 29	36 41	6		5.07		2.49)	0 1	0 4	1 1	10	S.	U. S. Weather Bureau
Densmore	Norton	2,200) 4	63.7		. 103	29	37	15	44	1.30		. 0.48		0	8 14	3 1			Miss Irene Vaughn. Jacob Bock.
Oresden	Decatur	2,731 1,537	1 15	69. 2	+ 3.3	100	29	38			2. 91 2. 16			7 1	0	6 1	1	3 4	S.	Geo. Seitz.
Emmett	Ellsworth Pottawatomie	1,024	1 1								5.58		. 1.38	3	0	9 1	7 1	3 6	S.	Frank Zina. Geo. D. West.
Eskridge	Wabaunsee	1,412	12	65.8		98	29	37	6 5	† 32 † 50	6.37		0.76	3	0	8 19 4 20 7 19	3	5 (sw.	C. M. Jennison.
Farnsworth Ft. Scott	Bourbon	857	7 38	66.4	+ 0.8	98	31	40	7	38	4.16	- 1.78	1.4	3	0 1	7 1)	1 11		E. A. Shaver. W. W. Watson.
Frankfort	Marshall	1,146		65.8	+ 2.9	101	29 30	38			3. 90 5. 61	- 1.46			0 1	5 1		3 6		W. W. Watson. D. D. Judy.
GarnettGoodland	Anderson Sherman	3,687	7 6	3																C. C. Calvert. A. Jaedicke, jr.
Hanover	Washington	1, 225	1 12	64.2	$\begin{vmatrix} + 1.0 \\ + 3.3 \end{vmatrix}$	101	29 29	39	6		3.54				0 1	7 1		1 13		Mahlon Tegley.
Harrison Hays	Jewell	2,000	4:	65.0	+ 1.7	101	29	39 38	15	1 41	5.72	+ 2.51	4.14		0	8 1	0 1	3 5	nw.	G. K. Helder.
Hill City	Graham	2,134	1 8	66.6		. 105	29 29	38 40	6		0. 91 3. 95		0.3			5 1		3 3	S S.	C. A. G. Inlow. Miss Thamar Richey
Holton	Jackson Brown	1, 188	3 24	63.2	+ 0.7	96	29	40	11	32	5.09	+ 0.02	1.09)	0 1	4 1	3 1	1 7	7 S.	Mrs. S. C. Belden. I. L. Vinson. R. K. Young.
Hoxie	Sheridan	2,700	14	64.8	3 + 3.3	101	29	35	15	45	1.45	- 1.37	0.5		$\begin{bmatrix} 0 \\ 0 \end{bmatrix}$ 1	$\begin{bmatrix} 7 & 1 \\ 2 & 1 \end{bmatrix}$	1 1	8 2	S. SW.	R. K. Young.
AWTence	Douglas Leavenworth	997	42 69	65.4	+ 0.4	97	31 30	44			3.91	+ 1.13	1.9			8 1	0	1 1	2 S.	Dr. A. F. Yohe.

TABLE 1.—Climatological data for May, 1913. District No. 6—Continued.

97.00			years	Temp	erature	, in	degre	es Fah	renh	neit.	Prec	ipitation	, in in	ches.	days		Sky.		direc	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	of pa	N u m b e r o f eloudy days.	Prevailing wind tion.	Observers.
Kansas Continued.																				
ebanon	Smith		15	64.0	+ 2.8	101	30	41	6†	45	3.07	+ 0.20	1.48	0	7	17	3	11	8.	E. V. Bower.
enora	Norton Wichita		10	63.8		99	29	36	15	42	1.97			0	5	18	12	ï	se.	J. S. Goodrich.
otiincoln	Lincoln		1	67.6			29	37	23	41	1.54			0	6	18	4	9	se.	L. E. Gorsuch. R. W. Greene.
indsborg	McPherson		7								2.39			0	7	16	4	11	8.	A. J. Frederickson.
cCracken	Rush		1	66.9			29	38	6	41	2.53		0.77	0	8	15	13	3	ne.	E. D. Floyd.
inneapolis.	Ottawa		23	67.8	+3.5 + 2.2	99	29 31	39 42	6 23	38	2. 24 3. 61	- 1.76 - 1.40	0.70	0	8	20 17	7	3 7 7	s. se.	J. L. Steele. C. J. Norton.
oran	Osborne		4	01.0	T 2.2	30	91	40	20		3.01	- 1.40	1.40			11			30.	C. O. Hunt.
orton.	Norton	2,284	15	63.3	+ 3.3	102	29	37	4	39	1.15	- 1.89	0.27	0	9	11	18	2	se.	Sim Sleffel.
herlin	Decatur		26	64.5			29	35	3	47	2.76	- 0.21	1.66	0	7	14	12	5	ne.	I. K. Huber.
rato	Marshall	1,194	5 18	64.4	+ 1.2	99	29 31	40 39	11 23	34 38	3.74	1 88	1.84	0	8	7 9	18 17	6 5	nw.	J. A. Church.
athekaloosa	Jefferson		10	00.0	T 1.2	99	91	99	23	90	4.78	- 1.66	1.54 1.62	0	9	9	14	9	8.	Dr. S. B. S. Wilson. Ralph Snyder.
ttawa	Franklin	926	19	66.4	+ 1.8	98	29	42	7†		6.35	+ 0.80	3.05	0	8	15	10	6	8.	W. J. Sheldon.
hillipsburg	Phillips	1,939	22 7	65.0	+ 2.8	103	29	40	6†	40	2.04	- 0.61	0.84	0	9	13	14	4	ne.	N. E. Bailey.
ainville	Rooks		11	87 0	1 9 5	00	91		7	35	0.44 4.22	0.07	0.15 2.05	0	5	19 19	10	2	ne.	P. D. Spellman. B. F. Blaker.
easanton	Linn Osage		1	01.0	+ 2.5	98	31	42	'	30	4.90	- 0.97	2.11	0	5 7	20	8 7	4	SW.	R. L. Graham.
epublic	Republic		10	63.8		99	29	37	6	45	4.98		1.80	0	8	20				J. W. Ambrose.
ussell	Russell	1,834	14	67.6	+ 4.2	104	29	.39	6	40	1.78	- 1.33	0.72	0	6	18	6	7	8.	Robert Brebner.
ussell Springs	Logan		5	00 04		101		906	***	50	0.00		0.00				17			Murray Wallace. J. E. Uplinger.
. Francis	Cheyenne		29	62.8d	+ 3.1	101	29 30	32h 39	15 23	50 42	0.66	- 2.41	0.28 0.85	0	6 7	8 15	17	6	ne. s.	Prof. A. W. Jones.
dina	Scott	2,971	7	66.4	T 0.1	102	29	37	15	44	0.98	- 2.41	0.80	0	3	21	10	. 0	8.	J. B. Loughran.
nith	Smith	1,800	3	64.8		105	29	38	6	43	1.88		0.59	0	8	11	16	4	se.	W. H. Nelson,
nneka.	Shawnee		27		+ 0.8	99	29	44	6	33	4.46	- 0.42	1.44	0	11	13	13	5	S.	U. S. Weather Bureau.
ibunelley Falls	Greeley		14	64.6	+ 0.8	97	29 30	36 40	15 6†	38 38	1.69 4.05	+ 0.05	1.35	0	10	12	14	5	s. ne.	Charles E. Cassel. Miss Nettie Maxwell.
nland	Douglas		4	04.0	T 0.8	90	30	40	oi	30	2.88	- 0.05	0.76	0	9	1.2	11	0	110.	A. Schick.
akeeney	Trego	2,456	30	66.2	+ 3.8	103	29	39	6	48	1.53	- 1.30	0.48	0	8 7	21	7	3	8.	A. S. Peacock.
allace	Wallace	3,303	43	64.6	+ 4.8	100	29	35	15	49	1.33	- 1.19	0.60	0	7	10	21	0	8.	J. L. Page.
amego	Pottawatomie	1,002	20	66.7		97	29†	41	6	31	6.70	+ 1.50	1.86	0	11	13	11	7	ne.	M. L. Stone.
Missouri.																			-	Water County
moret	Bates	850	5	67.5		99	31	42	7	36	5.34		2.05	0	8	19	6	6	sw.	Darby Fruit Farm.
ppleton City	Saint Clair			01.0		00	91	42	'	00	0.01		2.00		9	10			ow.	Robert Brown.
lington	Phelps	695	24								0.94	- 3.66	0.35	0	6	18	1	12	sw.	G. V. Randolph.
thur	Vernon	767	21	68.2	+ 3.5	98	30+	40	7†		2.38	- 3.73	1.15	0	4	21	8 3	2	sw.	J. T. Armstrong.
valon	Livingston		26 18	64.2	+ 0.1	94	30†	36	10	35	4.99 1.25	- 0.34 - 3.51	1.86	0	9 3	20 16	3	8	sw.	F. G. Ashbaugh. C. O. Brockman.
agnell	Harrison		22	62.8	+ 0.4	91	29	40	10	34	3.40	- 1.73	1.12	0	7	16	7	8	e. se.	W. H. Skinner.
olivar	Polk		26			100	31	40	7	42	2.50	- 2.91	1.15	0	6	18	13	0	ne.	A. C. Fink.
oonville	Cooper	600	38								2.86	-3.09	0.70	0	9	18 15	0	16	sw.	C. Randecker.
runswick	Chariton		33	63.6	- 0.1	93	31	38	11	38	3.43	- 1.54	0.86	0	11	10	5	16	S.	Louis Benecke.
intonblumbia	Henry		27 24	67.2	+ 1.2	99 96	31 31	39	11†	33	3.00	- 2.66 - 3.43	1.20 0.48	0	5 13	15	13 11	13	se. s.	A. E. Derwent, M. D. U. S. Weather Bureau.
nception	Nodaway		30		+ 1.5	92	29	36	10	31	4.05	- 0.76	1.37	0	12	11	13	7	nw.	Fr. Adhelm Hess.
ocker	Pulaski		2			98	31	38	19	46	1.25		0.44	0	5	17	7	7	8.	Ira H. Stephens.
don	Miller		2	66.7		97	31	39	7	37	2.00		0.60	0	9	9	20	2	S.	Charles A. Kellogg. Prof. T. B. Smith.
yette	Howard		31 23		+ 0.6	93	31	38	10	30 42	2.81	- 2.14	0.76	0	10	19	2	10		Russell Johnston.
asgow	Callaway Howard		35	00. 68	+ 1.9	98	31	01	7	42	0.91 4.04	-3.80 -0.58	0.37	0	5 7	15*	1	7°	SW.	J. J. Shaughnessy.
rant City	Worth	1,130	21	62.0	0		30	37	9†		4.67		1.55	0	11	19	2	10	nw.	W. H. Campbell.
arrisonville	Cass	912	42		+ 1.8		31	42	11		5.56	-0.31 + 0.81	2.62	0	13	13	1	17	sw.	A. J. Sharp.
azelhurst	Livingston		21		******						6.50	+1.52	1.68	0	9			100	******	W. H. Baker.
ermann	Gasconade	482 1,280	39 21	65 6	+ 0.9	97	31	35	24	46	1.12 1.26	- 3.27 - 3.19	0.34	0	9	8 5	6 26	17	SW.	C. T. Maushund.
fferson City	Cole	628	20	65.0	- 0.1	99	31	38	11	43	2.11	- 2.18	0.43	0	8	17	0	14	S. S.	Miss Emma Swift.
ansas City	Jackson	963	25 22 24 26	66.0	-0.1 + 1.5 + 0.6	96 90	29 30†	40	10	29	4.45	- 2.18 - 0.66 - 0.70	1.90	0	11	9	16	6	8.	TT O TT Ab There were
dder	Caldwell	1,017	22	63.6	+ 0.6			40 39 38	10	30	5.18	- 0.70	1.26	0 0	13	15	9	7	sw.	J. F. Sharp. J. Ed. Hall. N. W. Serl. J. W. Keithley. W. C. Wilmott. C. S. Crow.
monte	Pettis	863	24	66 0		96 92	29†	38	7 7 7	41	2.56 3.98	$\begin{array}{r} -2.89 \\ -2.10 \\ -1.41 \\ +0.05 \end{array}$	1.00	0	9	14	19 12	9	sw.	J. Ed. Hall.
banonxington	Laclede	1, 265 813	32	66.2	+ 1.3 + 2.3 + 1.6	92 95	31	40 42	7	38	3.98	- 1.41	1.75 1.27	0	10	14 14 12a	0	17	8.	J. W. Keithley
berty	Clay	864	32 25	65.6	+ 1.6	95	30	39	10	34	5.51	+ 0.05	2.36	0	9	120	124		sw.	W. C. Wilmott.
ckwood	Dade	1.088	18	66, 4p		94	31		6	34 34	2.54	- 2.18 - 1.71	0.80	0	6	214	. 5d	14	sw.	C. S. Crow.
arshall	Saline	779	23 24 34	65.2	$+1.0 \\ +0.4$	96	31	39	10	45	3.29	- 1.71	0.59	0	8	16a			sw.	
ryville	Nodaway		24	62.6	+0.4 + 1.4	95	30	36 39	11	38 36	6. 10	+ 0.80	1.50	0	14	12	0	15	8.	J. R. Brink. J. R. White & Son.
ount Vernon	Vernon	1,480 860	20	07.4	+ 1.4	96	31	39	23	30	1.31 3.07	- 4.41 - 2.75	1.31 0.69	0	1 7	17	13	1	SW.	C. Jewell.
egon	Holt	1,113	58	64.0	+ 0.7	94	29	38	10	30	5.71	-2.75 + 0.87	1.69	0	7 12	12 27 17 15	8	8	8.	Tom Curry.
ceola	St. Clair	738	15								5.29	- 0.92	2.58	0	7	13	12		SW.	W. E. Mathews.
ttonsburg	Daviess		4								4.43		1.02	0	11	14	5	15	se.	Garrie Burton.
olla	Phelps	1, 139	33	66.1	+ 1.9	98	31	42	10	36	1.30	- 3.80 - 3.77 + 0.36	0.48	0	8	20	5	6	S.	Prof. P. J. Wilkins.
. Charles	St. Charles	614 967	36 42	64.9	+ 5.6	98 96	30 29	41 38	10	40 33	0.56 4.73	- 3.77 + 0.26	0.28	0	3	14 11	8	9	S.	L. C. Saeger. U. S. Weather Bureau.
. Joseph . Louis (1)	St. Louis City	567	43	67.5	+ 1.0		30	41	10	29	1.53	- 2.71	0.89	0	6	12	111	8	se.	Do.
. Louis (2)	do	578	2	67.4		94	30	42	10	29 30	1.42		0.67	0	6	16	9	6	80.	St. Louis University.
iblett	Adair	1,000	34	63.2	+ 0.6	90	30+	36	13	40	9.12	+ 5.58	2.10	0	7	11	13	7	sw.	Lewis Spriggs.
rkio	Atchison		1	62.2		89	28†	38	7	36	6.19			0	7	16	6	9	8.	Prof. M. H. Rees.
renton	Grundy	. 812	19	63.2	- 0.7	89	31	36	15	40	6.09	+ 0.83	1.72	0	12	19	3	9	S.	W. H. Estes.
nionville arrensburg	Putnam Johnson	1,072 883	21 34	66 6	-3.4 + 1.8	90	31	33 40	11 10	38 32	6.85	+ 1.00	1.40	0	13 11	12 19	2	17	S. SW.	Geo. W. Davis. A. F. Smithson.
arrenton	Warren	865	24	66.3	+ 1.7	97	31	40	10	40	0.95	- 2.26 - 3.96 - 2.39 - 1.12	0.35	0	7	8	2 6	17	S.	Prof. J. H. Frick.
arsaw	Benton	700	10		+ 4.3		31	38	7	45	2.76	- 2.30	0.85	0	8	16	10s			J. R. Smith, M. D.
heatland														0		14	13			

a, b, e, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
† All temperature normals for Montana used in this table have been reduced to the 33-year period.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2 .- Daily precipitation for May, 1913. District No. 6, Missouri Valley.

04-43																Day	of m	onth															
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Wyoming.																											-					-	
Arapahoe	Bighorn	. 40)							. 04									. 05		. 10				. 02								0.
Basin Big Creek station	North Platte	1.63	. 19												. 02																		1.8
Boyd	Cheyenne	.07	. 10				00	3	.22					20	. 17		.02		.27	T.		.09				. 03		. 02		.20	.51	****	0.6
Burns	South Platte	T.							2	. 44	T.	T.	. 09	9	1.00	.22	T.	T.					.21			. 20							2.
Casper Centennial	North Platte		.01					T	T.	T.				T.	.07		.04	.02	.01	.01	.01	02			.02	T.	****	T.	T.	****			
Cheyenne	South Platte	. 01	. 14	T.					.31		.01	. 01	T.	.09	.46		.04	.01		. 25		.06			. 39				.01	****		.10	0.
Chugwater	North Platte		T.		41			T.		.04	70			. 71						. 23		T.											1.1
Clark Cody	Yellowstone Bighorn)		. 12			1.			1.		T.		. 02	T.	.26	T.	. 18					T.	T.			. 08		. 33		T.	
Dome Lake	Tongue	. 05	. 10			.11	1 .05						0.0					.06											. 10				0.
Douglas Dubois	North Platte Bighorn		12								1		T.	T.			T.	45		. 10										. 09			0.
Eatons Ranch	Tongue																1.	. 45	.00	. 20										. 11	. 10		0.
Echeta	Powder		T.		T.											. 50		. 15		. 43										. 62		T.	1.
Elk Mountain Encampment	North Platte													T.	.08		T.	. 03 T.		T.	.06	. 09			. 06			. 05				. 06	
Ervay	Powder		. 36		T.					. 18	. 12			. 03	3				. 04		.07							T.	T.	T.		****	0.
Fort Laramie	North Platte				5									. 26	. 58				. 10		. 16	T.				. 10							1.
Foxpark Germania	Bighorn	.06			. 01			T			.0		1						.01	. 18	.01	. 04	T.		T			. 05		.08			0.
Gillette	Powder																															****	0.
Horse Creek	Bighorn	.21	.31		.34			1000						90				.28	92	90	00										100		
Hyattville	Bighorn		. 05						1					. 20						. 22										. 33	. 17	****	2.
lireh	Niobrara	. 02	T.						. 02							.01				. 04		. 09				. 05			. 33			. 41	1.
Kinnear Kirtley	Bighorn Niobrara	o. 10	. 11		T.			.09	T.	.00				.01	70			. 20	. 22	.09											. 03		3.
Kirwin	Bighorn			. 03	. 80	. 10)	. 05	. 05				. 20	.10		.10	. 10	. 05	. 80	.30	. 05				. 02			T.	.50		. 50		1.
Knowles	Cheyenne North Platte		. 19		. 18									. 22	.08		. 49	. 32	.21	.06										2.60			4.1
Lagrange Lander	Bighorn	.51	. 16												1.73				.01	. 05				T.	.02		T.	.01		. 14	.02		2.1
Laramie	North Platte	T.	. 02											. 03	.03					. 02				.01				. 03					0.
Leo Lolabama Ranch	Yellowstone	. 10																10		90													
ovell	Bighorn	. 10																. 10	. 25	. 30										. 05		. 05	0.
ask	Niobrara												. 50	3						. 15										. 87			1.
fanville	Cheyenne	.06		05			00		- TP					. 13					48	. 06		. 06						T.	T.	. 58		. 69	
doore	North Platte		16							.01			1.		.17		. 02 T.	. 03	T.	. 03				. 10		. 02		T.	T.		1.00	T.	0.1
Newcastle	Cheyenne	T.	T.					T.		T.		. 10		.34	.11				T.	. 16 T.										. 26		T.	1.3
Pathfinder	North Platte South Platte		T.	T.				****	T.	20	. 10					. 55		T.		T.		.06	. 10		. 03			. 07		. 22		****	0.8
Pine Ridge	Cheyenne		. 12																. 47	. 03	. 10		. 10	T.						. 10		1.01	1.5
Powell					. 07	. 04								·			.03	T.	. 13	. 10		. 04						. 10		. 16		. 01	
Rock River	North Platte			T.	****		****			. 02	.04			T.	T.	T.	T.	T.	. 02	. 02 T.		. 09		T.	.04	T.		T.		1.00		T.	
Rockypoint	Powder	T.	. 04		. 13										.09		.32		. 40	. 28						T.							
Saratoga Seven-mile Creek	North Platte	.02													. 50		.10		. 05			. 15								. 01		15	0. 5
Sheridan	Tongue	. 30	. 12		. 26					T.	T.		.03	.07		. 16	. 20		.03	.04	.11				. 02				. 08		. 10		
Shoshone Dam	Bighorn	T.	T.	T.	. 05				. 05	. 03	T.			. 01		. 21	. 10	.06	. 24	. 15					. 03			T.	. 10	. 38	T.		1.4
Soldiers' Home	Powder North Platte	T.	.06					••••				****			1	T.			. 13	. 22	.05		****		.02	****	.04		11	. 03	. 03	. 12	1.1
undance	Cheyenne		. 05				. 25		. 10								. 15		. 50												. 80		2.0
hermopolis	Bighorn Cheyenne	. 42 T.	. 27	. 02					. 04				.11	.41					T.	.21	. 04				. 01					. 18	. 03	. 12	
Лm	Tongue				. 12	T.				. 02				. 24			. 29	T.		. 25		.02			. 01					3. 47	****	. 13	1.2
erona	do	. 22												. 21		. 42				. 14					т.								1.3
Wheatland	North Platte		. 16	T.					Т.	T.			T.	. 15	. 30			T.	T. T.	T.	. 10				T.	TP.		. 13	****	T		T.	0.6
Woodrock	Tongue	. 45	. 10		. 50					. 13				. 17			. 20		. 13	. 10	T.	.07			.02	T.		. 01		. 40		.10	2.3
Vorland	Bighorn	. 20	.22			. 05					. 34			T.	1. 10		T.		. 05	. 11		T.				. 05				. 11		T.	1.1
Vyncote Tellowstone Park	North Platte Yellowstone	1.	T.	. 11	.09			.02	.09	. 31	Т.		. 19	89	1. 10	. 10	. 10	. 12	. 64	. 14	21	. 30		12	.08		T			T	10	. 62	3.0
Fairview Dome	Yellowstonedo	T.							.20	. 12	T.		. 41	1.22		T.	.21	. 41	. 32	. 61	T.				.38					. 12	T.	.01	4.0
Fountain	Madison Gallatin Yellowstone		.10								. 20			40	. 50	. 20			.30	.20	. 30				. 10								1.8
Grand Canyon	Yellowstone	T.			T.			T.		T.	T.		T.	. 60		T.		T.	. 05	T.	T.			T.	T.			T.		T.	T.	T.	0.6
Lake Yellowstone.	Madison	. 25			. 21									. 42	. 14	T.	. 19		. 60	. 35	. 25	. 13			. 09				7			. 05	2.6
Norris	do										. 30			. 70					. ou	. 30	. 30	. 40			. 08		.04				****		3.6
Sylvan Pass	Bighorn	. 08	T.		. 30									. 32		. 56					1.94		. 02	. 37							. 20		3. 7
Thumb Tower Falls	Yellowstonedo	T							. 44		T.				10					10	01					****		Tr.					3.0
Up. Geyser Basin.	Madison								. 44	.01	1.	.00			. 12		. 28		.00	. 19	.01	.07	****	.01	. 20			1.				. 28	3.0
Montana.																																	
delgricuitural College	Missouri Gallatin				.30				T.	T.	.02	.02	T.	.05		T.	T.	. 20	.50	.20	.02			T.					. 35				1.6
ugusta	Missouri				. 64				. 13					T.	.02	.20	. 02	T.	. 75	. 45	T.			.01					.42				2.5
abb	St. Marys																																
ald Butte																77	0.5	7	49	011	1		- 1					00	19				1.0
illings	do		. 05		.08				. 10	T.		.02	****	.30		.03	.16		. 64	.08	.02						****	****		****		.01	1.4
iackleaf	Yellowstone do Missouri Jefferson			. 02					. 05	T.			T.	.03				. 19	1.45	. 40 .									.10				2.2
oulder Nursery	do do		. 02		.18	. 05	. 04				.10	.14	.04	.30		T.	.07	T.	. 34	.16	. 14							. 09	. 23				1.4
ridger	Yellowstone				.03			.08	.03			.09	. 02	.37		.05	.24		.19	.10	T.				.16			. 29	.09	T.		.07	0.8
roadview	do				. 20				T.					. 24		. 48			. 48	.14	.03					. 20				.08			1.
rowningusby	Marias Yellowstone	00	10	. 24	17	00					.10			1 99			95	.01	.02	. 65	. 02				T								3.0
usuceu					- 201	10.1			- 151	- (1.31				. 114		- 6 86 5	- 2554	. 13E I		. (128)	. 1 5 5 1				1.	.07	****		.03	.04			2.1
nyon Ferry	Marias Yellowstone do Missouri				. 15						.42		.06	. 28		.06		. 02	.36	.05				.06				. 24	. 25				1.8
scade	do		T		. 60	10			. 03	. 04	.27	T.	T.	. 24		.01	T.	. 15	. 22	.08	.29 .			T.					.16	. 00		0000	1.9
hessman Reservoir hesterhinook	Marias		1.		. 32	. 10	****		.50	.15	.00	.06	. 15	. 80		. 03	. 15	1.	. 20	.04	.04 .			.03		****		. 06	. 10				1.4
																																	1.9

TABLE 2.—Daily precipitation for May, 1913. District No. 6—Continued.

Stations.	Watershed.	_		-				1								Day	of n	nonth														
Stations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ontana-Contd.																																
depark	Yellowstone		T.		. 19	.0	3	T.	. 18		. 03			.30		.27	.37	T.	. 22	.52					14	02			T		T	
rad	Marias		T.						.17	.20	T.	.27		.06	.07		.03	T.	. 08	.22	.12							T.				
perw Agency	Missouri Bighorn		T.		. 10				. 02	T.	.37			. 51	T.	.15	T.	.01	. 40	70	T.			••••				.00	. 20	.03		
bertson	Missouri			T.	T.				. 05	.05		.61		. 19	.10	.20	. 30			. 75	T.			T.						.10		.00
Bank	Marias Missouri		T.	.00	20				.08		.13	.12	T.	. 10			. 40			.35			1					.12	T.	.50		
on	Jefferson							.17			.12			.20	.09				.52				. 62	.09			.27					
Wolf Camp	Missouri Marias			.00					∵ii	.01	. 03		.22		.14		.21		Interest to													
kirkaka	Lt. Missouri.	. 09	. 02	.02					. 62				.09				.02	.02	.03	.42	.11			****					.27			
n	Yellowstone Missouri		T.	T. T.	00			. 05	.08	.12		. 15					.08			. 75	. 16				. 33				T.			
on head Creek	Yellowstone		.02		.20	. 02		. 25	.09	.02	.34	.10		.34	.01	.19	T.	.05	. 55	.15				T.	.07	••••		.01	.02	1.01		
vth	Masonri				. 23				. 83			.06		.11					. 15	. 50					T.							
Benton	Missouri				.17	T.			. 10	.04	.24	T.		.09		••••	T.	.06	.24	.02	.02			T.		• • • • •		T.	.05	.03		
er	Bighorn		.08		.03				. 51			T	T.	T.		T.	. 03	T.	. 41	.18	T.	.03				.01					T.	.00
er	Missouri	T.	T.		.08			. 10	T.	T.	.20		T.	1.10		T. T.	T.	T.	. 25 .	38								.50	.20		.20	
ow	Milk		. 28					T. T.	T.		.30	.09		. 66		T.	. 24			. 30								.20				
divebutte	Yellowstone Marias		. 05	.10	T			T.		.10		.20		T.	ïii	.10	T.		T. 1	1.08												
am	Powder	.10	.10	T.	.17							. 20		.37	T.	. 08	.15		. 39	.34			.01		.03	• • • •		.00			.01	
Falls	Missouri			.11	. 61				.14	. 05	. 07		T.	.20	T.	T.	.02	.06	. 23	.08	.01			- 1				T.	.09	.08		
e	Milk		T.	. 02	T.				.42	T.		.23	T.	.87	.02	.0i	T.			.09		T.							.12	.02		
en Dam	Madison Missouri			T.	T.	T.		. 04					.27 T.	. 22	T.	.14		.33	. 86		.02			.18	. 29	T.	T.	T.				T.
wood	do		T.	.43					1.	. 03	.10		Т.	.39		. 01	.30	. 23	. 43	.04	T.		***	.01		****	T.	.18	25			••••
ley	Yellowstone		.08		.12				.17					. 26		.08	.12		. 31	. 10	10											. 05
nles Ranch	Missouri Milk			.12				. 05	03		T.	.20		.60		.38	T.	T.	.03	. 50		. 20										
town	Missouri	.15			. 19				T.			. 23		.02	. 87			.12	T.	.27	.03	T.			0.9				.02	.27		
iree	Marias			.70 T.					.10	.10	.15			1.00		T.	.10	.11 T	. 34	.36	05									10		
	Missouri				T.				. 22	.06		. 03		.38		T.	. 04		.12	.04				T.				. 03	. 14			
ino Loke	Milk Missouri			15					.12	. 02		.63		. 65	. 20		. 45			. 46								. 16		. 40		
	do			. 10					.12			. 45	.28	.05	T.	T.	.07		.30	40	T	300			15		****	****		.04	.02	.10
ed	Yellowstone		.09	.02				. 13	.37	. 04		. 08	T.	. 05				.07	T.						. 56				.02			
	Madison		.16	1.	.12	.06		.06	.06		.05	.02	.02	.44	.01	.06			. 09	.70	18			. 30	.10	T.	••••	••••				• • • • •
Creek	Jefferson		.01					.10			.03		.02			-		.02 .		.03								.02	.40	.09		
tone Pass	Missouri Jefferson	.07	.04	T.	T.		.02	,	.09	.05	. 22		07	.33	T.			ii.	.82						T.	••••		49				
3	Yellowstone		.06		.04			T.	.17 T.	.11		.09		.04	FER		.19			.38	.01				.25	T.		. 42		****		.04
Lodge	Missouri Yellowstone	10	T.	T.					T.	.03		.27			. 45	T.	.70	T. -	.22	.45	T.			T								
78	Jefferson				.04	T.		.18	T.	.00	. 26		.08	. 65			. 22		.20	. 58 .		.03			. 15 T.		T.	.09		T.		
e	Missouri Yellowstone		T.		T.				T.			.36																				
Y	Marias			T.				.20	1.	T.		.30		.19	T.	T.	.35	.06 .		.51	. 31					.10		T.	.13	****		1.
y	Yellowstone Missouri																															
	Milk		.10		.01	.01		T. T.	T. .04	T.		. 33		T.	. 42					. 82	. 10					T.						****
iver Canyon	Missouri																															
Forks	Madison Missouri	• • • • •			. 10	. 10			.10	. 05	. 21	.01		. 33		T.	. 15	.06	-41	. 33	. 10			. 05	. 03		••••	.08	. 02	. 51		
tine	do								. 26		.71						T.			. 39 .									T.			
Rock Mount'n	Marias Missouri		02	.09	24			T	. 14		09	. 14	0.5	. 14		T.	. 13 T.	. 15 T.	31	. 15	T.							T.	. 27			
ton	do		. 03		. 10	. 00			. 13	T.	. 44			. 89					76	. 10 .	.05					.06		1.		.18		****
	Yellowstone.		. 06	T				. 09	. 11	. 04		. 08		. 09	T.		. 20	.02 .		. 82	. 03				. 42	. 31			T.			
ngs.	MISSOUTI			1.	. 19	. 10			Т.		T.	. 31		. 30		. 06			07	.05							• • • • •	. 18	. 05	. 03	. 05	
r	do		T.	. 10				T.	. 04	T.	T.	. 41		. 90	T.		T.	T.	T.	. 50 .				T. T.						. 05		
orth Dakota.	do	••••		Т.	. 41		••••		. 21	T.	. 31	. 04	. 08	. 45	. 06	. 02	.02	. 03	60	Т.	. 01			T.			•	T.	. 04	. 12	• • • • • • • • • • • • • • • • • • • •	••••
	Knife	. 05			. 05	T.		т.		T.	T.				. 55		. 27	. 05 .		. 88	. 15	.02			T.	. 05			.02			
ard	Missouri																															
	Lt. Missouri.			T.	T.	T.		.07				.07			. 55		. 10	.08			T.				.37	. 18 T.			T.			
d	Heart														. 17					. 68	. 13					. 02						
	Missouri	T.	T.	Т.	.11		T.				T.						. 25	T			. 18	T.			.02	. 55 T.			T.			T.
l	do								T.			.07				.02	. 25 .				. 10	. 03			.02				. 05		. 12	.02
son	Heartdo	.14	T	T.	T.		T.			T.		.01	T.	.03	. 54	T.	.08			. 79	. 05	T.			.70							. 43
y	James	. 13	. 11						1.	1.	***		1.	.03	26	1.	. 17	. 35 .			4.0	1.			. 40	.09			****			. 27
ion.	Missouri	.04	. 02									.08			. 04	. 30	. 33 .			.38	. 12	T.				. 33						. 03
on	James Missouri	T.				T.		T			***				. 68	.10	. 38 .				. 34	T.							.09	****		. 52 T
	Grand	T.	T.							. 05			T.	. 23		T	11			. 45	. 15					. 50		. 05				T. T.
rd (near)	do Missouri		T. T.	T.	T.				T. 40	.03 T.	. 01	.10	T.	. 32	. 08	. 05		. 04 .		.82 .	. 15	. 03			. 23 .	31	. 52	T.		T.		. 24 T.
town	ames			. 10													.38	. 10		. 03	. 75	.03								T.		
nry (near)	Missouri		T.	T.		T.		T			T.	T.						T.		T.	.11	. 97				T.			. 21			.38
arth (near)]	t. Missouri.	.08	.02	T. T.	. 03		T.		. 24	. 10 .		.03	T.	. 13	.05	.07	. 15	.02	09		.08	T.			. 10	.09			****			.29 T.
onmoor	ames		T.	T.	.03 T.	T.					T.				. 05					. 25		T.		.08					T.			. 24
le	t. Missouri.		T.											T.	T.	.30			41	.02									T.			.38
(ames. Cannon Ball		T.		T.			. 05		.02				.07	. 21 .		.34		04	67		05		.34		. 03						T.
				. 01				.24			. 02			T.	. 10	. 08	.02	.40 .01 T. .12		. 22	. 25				48		.07					
england								. 44	. 00 .								. 40	· UI		. 00	· II .				. 40	. (19)		. 171				
Rockford J			T.		T.			T			T.	T.			. 14 .		T.	T		T.	. 04		. 19	. 11								1.04 .16 T.

TABLE 2.—Daily precipitation for May, 1913. District No. 6-Continued

Stations.	Watershed.	_	-											,		Day	of m	onth														_	
Diations.		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
N. Dakota—Contd.																																	
steele	Missouri																						. 04									1.05	1.1
Furtle Lake Washburn	do	T		T.											- 43	. 03	T.	. 15 T		. 67	. 22	Т.				10			T.				
Williston	do			T.	T.			T.	. 02		T.	.08		. 02	.75	. 02	.06			. 29	. 02				. 07	.17		. 01	. 03			. 04	1.7
South Dakota.																														-			
		10		10										40				-					-										
Aberdeen	James Missouri	. 10	. 15	. 10			T.	. 10	. 10		. 05			. 10	.50	. 40	. 05 T.	. 30	. 26	. 40	1. 15	T.	T.			. 45	. 10				. 14		4.0
Alexandria	James	0000	+ 40						.58					.33	. 35	. 12				2.70	. 33				. 43	. 32						. 33	5.6
Armour	Missouri Chevenne								. 30				. 51	. 30	.06	••••	.30	*	. 60	. 20		.32			. 20					. 50	. 55		2.6
Blunt	Missouri		.09				. 09		T.					. 04	. 06	. 03	T.		. 65	. 05 1. 50	. 34				. 09	. 51					. 50		4.4
Britton	James Big Sioux	. 10	. 41	. 02				.04	. 14			. 26		. 16	. 40	.26	. 25		.11	1.03	. 64		. 02		.06	. 01	. 16				.75 T.	T	3.1
Bryant	Little Mis'ri.																										1						
Camp Crook	The Olesson		40	60											. 63				T.	. 49	. 81				T.	. 11			T.	. 13	. 83	.31	5.6
Cascade Springs	Cheyenne		43		·	. 19	. 03		. 42	.03					1.07				. 04									. 02		. 22			2.5
Castlewood	Cheyenne Big Sioux Big Sioux Missouri James Missouri Cheyenne	.02	.64	. 14	1.			T.	. 39	Т.	Т.			1. 29	. 31	. 26	.09	1.	T.	.83	.93	Т.	1.	1.	. 20	. 30	.04				. 19	. 19	3.5
Clark	James	. 08	. 44				· · · ·	. 14	97	T.				94	. 65	. 23	.07		T.	. 92	. 64		T.		. 18	. 23						. 62	4.4
Cottonwood												. 05		. 41						.07		. 10			.06			. 18	.00	.97	. 08	.09	
Daviston	Owl Cheyenne	10					90		. 18						. 25 1. 00		. 22		. 18	1.00						. 90		1					2.7
Deadwood	do	T.	.04		T.		. 04		. 14	. 03		T.		. 50	. 06			T.	.30	. 50		T.	T.			T.				. 15	. 55	.01	3.1
De Smet	James Cheyenne		. 32	. 07	т.			T.	. 03	· m				50	. 73	.31	T.		. 41	1.02	. 46				. 47	. 25					. 12		4.1
Dowling Dumont	do	. 08	. 17		. 05		15							17	100	. 04			. 60	. 14		. 07								. 06	2. 10 . 73		
Eagle Butte	Grand Missouri	****		***		****	T.			. 27	т.			. 14	. 45	T.	. 24	. 01	. 54	. 88	. 05					. 26					T.	. 02	2.8
Eales Elk Mountain	Chevenne	. 10	. 05					.01				. 10		. 18	. 20															1, 26		T.	1.9
Ellingson	Grand Cheyenne	T.	T.		T.				. 11	. 01				. 16	. 13		. 08	T.	. 18	. 42	. 02				. 10	. 81						T.	2.0
Englewood	Missouri		.01					T.						. 15	. 45			.07		. 41					.50	. 14						. 19	1.9
Fairfax	Cheyenne	T.	.01 T.						. 34					. 80	.30		40		. 10	. 55	. 45	T			. 40	. 00						т.	2.6
Faith	James	T.	. 21				T.	. 13						. 02	. 95	T.	. 18		. 14	2.24	. 27				. 22	. 37			. 02			. 39	
Flandreau		. 05	.30				. 05		. 43				. 23	. 33	. 10	. 40			. 20	1.80	15	75			. 20						.17		4.4
Forestburg	Cheyenne													. 40	. 35				. 35	. 70	. 20					. 10			****		1.00	. 00	3.1
Frederick	James Cheyenne																			.34													3.6
Greenwood	Missouri		. 35				T.		.17					.90	. 08	. 06			T.	: 79	.30				. 34	. 02				. 35		. 02	3.3
Goldfield	Cheyenne		.01				.01	****	.04				****	. 67	53				1.55	. 46	04	****				07					1. 12		4.5
Hardy Ranger Sta	do	T.	T.											. 07	.35		. 53		. 47	T.	.38					. 22				T.	. 83		
Harveys Ranch			.06		01	T.		.34					.33	70	.02			50	.12	.02		0.0								63		. 61	3.7
Highmore	Missouri		.32				. 02	.09						. 07	. 42			. 05	. 45	1.49	. 09				. 35	. 76	3						4.5
Hopewell Howard	Cheyenne Missouri	T.	.07	.05			T.	.04	. 20				. 19		. 48	- 40	. 10 T.		. 85	. 88 1. 45	. 02	T.	.01		T. 18	. 16	3 .01		T.		. 98		3.7
Howell	James	. 02	.31				. 02	. 10						. 01	. 65	. 04	. 03		.32	1.15	. 16				. 18	. 42	20.02					. 20	3.6
Huron		. 10	.30				T.	. 05	.05					T.	. 58	T. T.	T.		.00	1.53					. 53	. 28	3				. 11	. 40	
Kadoka	White	T.	T.				T.		. 57			T.		. 56	. 44				. 35	. 08	T.	. 03							. 15		. 47		2.6
Kennebec Kimball			.52				T.		. 12					. 08	. 18	T.			. 19	.33	. 40	T.									. 64		1.9
La Delle	James	. 17	. 75						. 15						.54	. 17	. 15	T.	. 10	1.40	. 52	T.			. 28	. 30)					1. 15	5. 6
Lead Lemmon	Grand	. 12	.09		. 02		. 12								.32				. 42														
Marion	Missouri		.78	. 03				T.	. 54	T.				1.08	.03	. 12	T.		. 04	. 93	. 65	T.						3				T.	5.6
Marston Meadow	Grand		T.				.09	. 10	. 10	T.				. 05	. 26	. 01	. 20		. 20	. 89	. 05				.01	. 55					. 40	.02	3.5
Mellette	James		. 42				T.	- 11				T.			11.08	08	05		T.	1.10	63				44	16	3					35	4.4
Menno Milbank	Minnesota James	T.	.36	. 45				. 07	. 05				. 90	T.	T.	. 85	.04	. 04	T.	. 23	1. 13	. 41	T.		. 13	. 23	3 .11	i		. 20		. 31	3.9
Milbank	James Missouri	. 05	.07						. 45	. 08				. 28	. 15	. 40	90		20	. 70	. 80	. 20			20	. 60	. 34	5			. 32		4.4
Mobridge Murdo	White		T.						. 00						1.00		. 20		.20	.50	. 50					T.					1.00	. 20	3.0
Oelrichs	Cheyenne James	03				. 20									1.35					. 20		T.								. 60		. 05	4.6
Onaka Onida	Missouri	. 00	. 10	1.			. 20	.30					. 10	. 10	. 55	.00	. 12	.03	. 55	1. 25	. 04	.02	1.	. 12	0.6	. 54	1				. 03	. 04	3.1
Orman	Missouri Cheyenne Missouri	T							T.			T		. 25	. 20		. 27		.38	. 12	.04	. 07						. 04			1 52		1.8
Ottumwa Parkston																										209				. 96		1.	13.6
Pearl Creek	Missouri	7						. 18	10			T		10	. 22	. 05			. 26	1.01	. 74				.32	. 2					. 22	. 42	3. 1
Pierre Pine Ridge	White	1.	T.			. 15	. 02	.01	T.	T.	T.	1.		. 08	1.01		.00		. 05	1. 52	T.				1.				. 08	. 49	1.12	. 34	3.3
Plankinton	Missouri. White. James. Missouri. Cheyenne		-,24	- CE			T.	. 02	. 58					. 24	.52	05	. 08	9.4	. 14	1. 17	. 42	T.			. 08	. 17				. 07			3. 2. 2
Pollock Rapid City	Cheyenne	. 03	. 03		T.	T.	. 01	. 02	. 24	. 04		. 02	. 20	. 53	. 09	T.	. 18	T.	. 81	. 18	. 02	. 09			.01	T.				. 60		. 15	3. 2
Redfield	James Cheyenne				·	70	10		12		40	T.			94			70		. 08		T.		773						74			3.6
Rosebud	White	T.	12			T.		. 05	. 16	. 02			. 01	. 14	. 85	. 04			. 14	. 10	. 03				T.	T.					1.07	. 34	3.6
Roslyn	Big Sioux	. 28	. 48	. 02				1.10				T.		1	. 65	. 03	. 08			1, 13	. 44	T.	T.		. 32	. 03	31					. 38	3.1
Selby Sioux Falls	Missouri Big Sioux	. 13	. 42	. 03		. 02			. 16	. 47			. 05	1.04	.11	. 18	. 02	.03	. 00	. 60	. 90	. 16		. 44		.35	.8	5			. 21	. 04	5.
isseton	Minnesota Owl Cheyenne Missouri	****							40	· m		****		****		10	10																9
orumspearfish	Cheyenne	T.			T.				. 42	T.				. 17	. 15	. 18	. 13		.15	T.	.08	T.					.34				1.21	. 60	2.
	Missouri			. 32			T.	. 07		. 05			. 12	. 20	T.	.20	T.		*	1.00	.03				T.	. 58	3				1. 15		3.7
feman fama fimber Lake fimber Lake fyndall fale Vermilion Waters Ranch Watertown Wentworth	Grand													. 25	. 64	T.	. 25		.14	. 57	.06				.14	. 56	3		10		. 25	.27	3.0
yndall	Missouri		1.04	. 03					. 32	.03				1.08	.11	. 03		. 02	.05	.21	2.38	FF			. 45	.21	. 01	1			. 54		6.
Zermilion	Missouri	T.	.77	. 14			. 03		.11	.06			****	1.88	.28	.04	. 23		. 36	. 28	.04	T.	. 02		T.	.49	0.0	5			.02	. 05	4.
Waters Ranch	Cheyenne	. 07	T.		.06		T.							. 31	. 13		.12		. 33	.03	.06	. 02						. 13	2		.76		2.
vatertown	Dig Sloux	. 02	. 18	. 35				. 12	.03				T.	T.	T.	. 90	. 14	. 02		. 32	.70	. 33	T.			. 60	1 . 10				. 05		0.

TABLE 2.—Daily precipitation for May, 1913. District No. 6—Continued.

Stations.	Watershed.		,	,				-		,		,			De	y of	111011										1		1	-			14
Stations.	Watershou.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
outh Dakota-Con.	*															-																	
Thite Lake	Missouri								. 40			· · · ·		.20	.10	. 45			.24	.81	. 61					. 15				200	.35		
/inner	Whitedo		. 20)				. 46	.86			1.	.08	. 18	.58	T.			. 26	. 08	. 02									.28	. 32	T.	
ankton		. 39	. 61	. 12	T.	T.	T.		. 23	.02				2.20	.58	.04			.01	. 59	. 18				.85	.06					.03	. 19	
																		3									1					014	100
Minnesota																								10	- 1		1			-		(10)	
ipestone	Big Sioux	. 18	.06	. 02	.02	. 05		.12	.27					.41	. 10	.47	. 02		. 26	1.33	. 36	• • • •		••••	.06	. 42	. 15				T.		4.
Colorado																100						500		3		102							
	Describilism			0.4					90	21	01			1	00				04		00	00		1				04				.32	1.
rribauldhurst	Republican . South Platte			. 01				••••		. 08					. 03				.01		.15	.05		T.	.02	.09		.09					0.
ennett (near)	do		100		1					70					. 22						21				1000			.11					1.
oulderurlington	Republican .	T.	.43			****		.05	.80	. 02	.03	****	****	.00	.01	••••	••••	. 22		.00	.02	.03			.03			.02				. 18	0.
anolle	South Platte								. 15									T.		T.	.02									10	0000		0.
astle Rock	do								. 09	. 05	T.				T	••••		T.			34			Т.	T. T.		.00	T. 10			T.		0.
heesmanheyenne Wells	Canalan Hill	0.2			T				T	20	00											59		7.000		. 22					T.		1
heyenne Wells orona enver dgewater stes Park Fish	South Platte	· · · ·		. 56						. 65	. 02				. 33	. 19		.36	.08	01	. 48	. 30	. 05	T	.02 T.				. 04	. 03			3.
enver	do	1.	. 10	.28					. 30	.24				.01	. 63			.05	.13	.01	.05					T.		.94					2
stes Park Fish	do	T.	. 16	T.						1.25						T.	T.	. 12		. 15	T.		. 05		T.	T.							1.
Hatchery.		_	. 28						T.						.38		T.	.06		- 41				T.	T.	T.							2
out Tanton	do	T.	. 01	. 48				.06		1.18					.80			T.	. 08		.06	T.			.01				.04	·	- : :		2
ort Morgan	do	. 15	.04	.04					40	. 93 T			T.		. 96	••••		.21	.13	••••		.03				****	.01	20			. 20	. 15	1
rancesrys Ranch	do		20	. 02					war and	.82	WO				. 07				.00		.05	. 05	0.000					. 20)				1
econotown II	do			1					. 41					.09			.07				.02	T.	·T.		T.	T.	T.	10	0	T.			0 3
reeleyrover (near)	do		. 10	. 05	T.			T.	****	. 15	T.			T.	.75	****	::::	1.	.00	T.	.10	.35	1.		.15	T.	1.	. 65	.10		****	. 32	
Lambani	do	1		1					3495	7.7															.04		T.				T.		. 0
awthorne	Panublican	.01	. 22	. 20						.74	51			T.	. 40			.04	.08		.01	05				15	****				T.	. 45	1 1
laho Springs	South Platte		T.							. 36		.02			.03	-		02	0.3	T	02				T		7	0.04	1		T.	Soli.	. 0
llesburg	do									: ::																							2
ersey	do		. 12					••••		1. 45 1. 15	.12			.12	. 40			.08			.20				.05								î
lesburgerseyaporteeroy (near)	Republican .																																
ongmont ongs Peak (near)	South Platte	20																			• • • • •											••••	· ò
oraine	do		. 10																														0.
Ioraine latte Canon t. Cloud	do	.09	.07							.02	••••	••••	****	T.	.10		T.	.04	T.	.06	T.	T.		T.	T.	T.	T.		.02	T.	1::::	. 10	0
																																. 10	3.
picer (near)	North Platte									46					2 16			11	05			21			• • • • •				****			.35	3
Vaterdale	do		. 38							1.48	. 26				. 36			.08	.04			.06				1			· laura				. 2
olgen (near)terling	Republican .							T.		. 64			· · · ·	.01								.05									. 68	. 43	1
uma	do		T.	****			T.	T.		. 83		****	T.	T.	.02						****	.02				****						. 20	1
Nebraska.															-				-					16						-			1
insworth	Niobrara							.18		. 20	T.	.30	06	1.80	. 26	T.			Т.	. 13	. 92				T.	.19	. 07				.50	.97	4
lbionlliance	North Platte	95								44	- 20	1		1000	1 10			10000		. 10													
lma	Republican.	. 30	. 05						:	1.86	. 15	.02				·					.11	T.			****	.03						50	2
rcadiarden [Republican . Loupdo	1. 30	. 26			T.	. 22	. 22	. 25	. 31	. 20	.05	.53	.29	T.	.01			T.	.18	. 15	****		.40						. 58		.84	5
shland	Platte	. 22	1, 23							. 81	. 47			. 02	.82	. 08	T.	. 17		1.13	2, 88				I.	. 15						. 03	8
shtontkinson	Loup Elkhorn		T	T				95	95	40		T		9 95	05	05	05		T.					****		. 18						****	3
uburn	Missouri			1.72	1.85	.06		. 20	. 20	. 40	1. 25	.20	T.	2. 20	.03	.20		. 03			1.10	. 04				. 19							6
urora	MissouriBluedo Republican Missouri Republican	2.31	1. 10	1 00			. 22		. 35	. 64	. 16		.06	. 04							9 99	. 98				. 04							5
eatrice	Republican .		. 83	1.00	. 04					. 75	.11	.04			. 05						0.02	. 21									T.		1
ellevue	Missouri		. 14	1.60						. 20	. 25			.34	. 43			.12		.12	2.05				T.							. 07	5
enkelmanertrand	Republican do		1 54	****							26		****			****																.01	2
lair	Missouri	T.	. 92	.87					T.	. 56	. 01			.77	1.42				T.	10	1 11				T	. 29	. 01	1	1.50		03		
lakeloomfield	Loup Missouri Blue		1 20	. 50				. 30		T.	T.	T.	. 60	1.00	. 08	. 10			T.		.05				1.02	90	00				T.	T.	6
radshaw	Blue		. 25	1. 16					T.	. 18	. 35	T.	T.	. 02		.28		. 23	.02	. 00	.78	. 40				.44						.01	4
rewster	Loup North Platte		. 02	. 03			.02	. 03		. 15	. 15			. 90	.07	. 28		.10	.02 T.	T.	. 59	· m			. 43		T.		. 06	9	.06	.10	3
ridgeportroken Bow	Loup	61	29		07	T.	T.	47	. 16	. 15	.07																					.65	2
runing	Loup Blue			1.10	. 55			T.		. 53	.19		T.		T.		.02		T.	1.40	1.17	T.						T.					4
urgeurwell	Niobrara		. 10	94			.60	90	T.	20	25	. 25		.70	. 13			T.	Т.	T.	T.				80		****	0		. 18	. 50	.30	2 4
utte	Niobrara	.04	. 05			T.	T.	. 20	.18	. 01				. 90	. 24	. 16			.04	. 01	. 63				. 02	T.						. 15	5 2
airo	Blue. Niobrara. Loup Niobrara. Platte.		2.43					.30		.69	.10			70	. 21		.14				.61												
ambridge.	Loup Republican		. 33	. 10		. 03					.08	T	T. 04	T.	1.00			T.			. 15	. 23	.05	****		T.						T.	3
allaway ambridge. olumbus	Republican . Loup		1.60	.89	T.																					. 08	. 02	2			. 08		. 6
reteulbertson	Blue Republican . North Platte		.77	.89	. 02			. 03		.70	.64				. 17		.03		.17	. 27	1.48		40				0	1	::::				4 1
urly	North Platte	T.	T.	.02		T.	T.	T.	T.	. 11	T.	T.	.08		1.39				. 17	T.	. 04	.02			T.							.40	0 2
urtis	Republican.		. 27	.37		T.				. 31	. 42	. 22			.11			T.			.11										Т.	T.	1
altonavid City	North Platte Blue	23	2 32	10	01					. 95	. 24			. 26	.10	T.		.08	T.	. 43	.85				****		. 0	3				T.	
u Bois	Missouri	. 20		2,60	.06	.08				.28	.39		. 02		.80	.10				.38	. 92					. 12	2						. 5
umas	Missouri Loup Platte		1.48	. 24		T.		. 22	T.	. 19	.07			1.09	. 21	. 04		.04			. 14		00								Т.		3 3
lm Creek lsie											61		0.0	0.9	.03	10		01		1000	30	0.4		1113			0	8				1 15	8 1
ricson (near)	Loup			1. 44		T.	. 44			. 54		. 13		.35						. 24				T.	.10	0					. 73	2 .10	0 4
wing	7731. E		1 75	95		T		111	15	.08	. 02	.03	T.	11.80	. 22	02		0.04	. 03	T.	1.18		1	1	1 . 04	4 T	1	1	1		20	1	

Table 2.—Daily precipitation for May, 1913. District No. 6—Continued.

Stations.	Watershed.			, ,												ay o	of mo	nen.															
	11-2	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
ebraska—Contd.																		-							1								
eterirbury	Bluedo	· m	. 94 1. 87	1.17				.15	1 75	1.18			T.	T.	.10		T.	.03		. 25	2. 13		·m·										1
irmont	do		.30	.93	.12				. 12	.17	.67	.12		T.		.06	. 1.1			2.48	1.62	. 35										T.	8
lls Cityrt Robinson	Missouri White	10		1.63	.08	.35				. 21	. 52	T.		10	. 15				15	. 19	.84		12			. 15					.11		4
anklin	Republican.	. 54	. 33	.03					. 50	. 76				. 10	.00				. 10	. 28	. 05							.04					
mont	Platte		1.30	.66				·		. 28	. 13			.37	.40	.32					1. 22				T.	. 20				T	· ····	• • • •	4
llerton	Blue		2. 22 1. 66	.44	.02			.04		1.74	. 26			. 25	. 11	. 25	.36			.38	1.90					. 22				1.	1.		1
noa	Loup		1.40				T.	. 07		. 33	. 21			. 45	.08				T.	T.	. 60				T.						. 14		1
rdonsper	Niobrara Republican.	1 38								16	. 24	04	03	. 50	.80			04			.08		.03								.35	. 12	
thenburg	Platte	T.	. 26	. 25				T.		1.00	.12	T.			T.						. 28	T.	.06			T.						. 10	
and Island	Republican .										.34			.24	. 13	****		.09	T.		. 21	.30		****			****	****	. 23			T.	1
eley	Loup	1.41		.08			.31			.06	.31	.11			.50	.02			1.		. 14	1.			.33								
ide Rock	Republican.		. 05	. 05					. 65	. 80	1.80				.05					.30	. 60												
iglerlsey	Loup		.01					02		.03				1.09	31	20		.11							01	02		****	T		26	17	1
rtington	Missouri		1.90	.35				.78		.60				2.20	. 44	. 54	T.				. 28	. 26				1.52	. 05				.08		
rvard	Bluedo		97	.67	.04				.06	.10	97	.09	T.						T.	****		20									****	T	
stings	Republican.														.02				1.		.02	. 36											
y Springs	White		T.		. 08		T.		T.	T.		T.	. 67		1.50			. 15		1 04	T.		(10)		т.							. 22	2
pronmingford	Blue Niobrara		. 32	. 07	.02	.06	.30		.01	1.13	. 25		.06	.03	30	. 53	.47		. 15	1.24	. 03	.02	Т.		T.							.96	3
ndley	Republican.	1.20							.80	. 20												. 56											1
shey	South Platte							.02		. 15		.02	.05		.09	. 05			****	. 15	.51	70	.10	****	Tr.	14	. 20			· m		. 60	
lsideldrege	North Platte Republican.		.72			.03	.08	.01			. 25	. 02									T.	.18	.01										
oper	Elkhorn		1.00	1.10						.10	. 20			.75	. 20				T.	. 60	1.20					. 40							-1
lf (near)	North Platte Republican.	T.					282	PT	. 20	20	07	T		.05	1. 15		· qr	10					.02									.38 T.	5
rney	Platte		. 49	T.				. 12	.06 T.	.30	. 24	.14		1				. 07			.56	.04	.03								T.		
nball []	South Platte						70		.06	. 20	· · · ·			. 39	. 28	T.				T.	T.	. 10				· · · ·		T.			. 23		
kwoodwanda []	Niobrara North Platte		T.			.02	1.		1.	. 23	T.	.01		1. 05		.32			. 05	1.	. 10					1.				. 21		. 20	
cington	Platte		1.25	. 07		. 01				. 43	. 10	. 02			. 04			. 09			. 10		. 06										
colnlgepole	do South Platte		.84	.73	T.			T.		.83	. 58	T.		.01	.24		. 22	. 03		. 91	1.29				.11	. 23					08	Т.	-
ip City	Loup																																
Cook	Republican.																			1 00												90	
Cool Junction .	Blue Elkhorn	. 04	1.75	. 10				T.	. 33	. 10	.04		T	.75	T.	.50		. 08		1.00	. 55				. 26	. 20							2
rquette	Blue	. 44	1.07	.02	T.			. 05		. 20	. 22				. 15			. 13	T.	T.	. 76					- 26	il	1				. 01	1
son City	Loupdo		. 02			Т.	80	. 29	T.	. 07	.05			. 87	.94	. 07					. 80				T.	T.			j	T.		. 80	
natare	North Platte	. 03	.04						.20	. 10			. 03	3	1.33														5		. 10		-
den	Blue	. 13	.18	. 02	. 02			T.		. 02	. 28	T.		. 06				T.		. 02	.20		. 03			. 03					T.	T.	9
chelloraska City	North Platte Missouri	****		1.90		****			****	. 08	.01			1.80						*	3, 40	. 23	.01		.30							. 28	- 1
son	Blue		. 33						. 63	. 44	. 12	T.	. 15	j						.41	. 18												- 1
rfolkth Loup	Elkhorn Loup	1.55	1 25					.25		. 16		T.	T.	. 58	. 29	T.				.06	.36					T.					. 81		
th Platte	Platte	T.	T.				T.	. 02	. 25	. 35	.03	T.	1.	. 03	.06	T.	T.	T.		.02	. 39	T.	. 03			. 21	1					2.11	
kdale	Elkhorn	. 50	.65	. 07	· · · ·		T.		T.	. 26	. 07			. 57	. 25	. 01		. 03	T.	. 02	. 20				. 09						. 60	7	
naha Neill II	Missouri Elkhorn				T.			24	T.	. 34		T.	T	3. 62	:41	. 06	. 05 T.	. 06	T	1.16	92	01			. 14 T.	. 10					T.	T.	
1	Loup		1.60	. 05		. 01		. 29			. 36		. 20	. 13	. 04		. 02				. 18				. 56		00	8				. 86	6
eans	Republican.	. 20	. 03						. 18	. 15			10													00							
eola	North Platte													. 10							. 13												
isade	Republican.									.30	0 .05										. 10	. 28											
myrawnee City	do	1		2 20	OF					- 100	1.68	s.P	1	- 04	1	1	.01	1		0.5	1.77 1.06	00			. 12	1		1	1			***	:
cton	South Platte	T.		0.00	.00					. 99	.05	.26		. 18	.78	. 01	T.	T.		. 25	. 09				. 12	. 32	2					.34	
mouth	Blue						m							1 00		/D		70							90							.14	1
rdumvenna	do	.17	2.03	.03	****	T.	T.	T. 25	32	.09	1.35	.11	T	1. 39	. 64	20		1.	. 16		. 82	39		***	. 33	T.		***		. 12		. 14	.1
l Cloud	Republican.	. 02	1. 16	.06						1.30	. 99		T.							. 20	.80		T.				. 0.	2	. 0	4	T.	. 20	
Libory	Loup	1.73	9 10					.30		1. 15	95				. 35		T.	. 15			.70				19	. 30						.20	6
tee	Missouri		1. 47					. 18	. 15	T.	01			1.39	.09	.11	T.		T.	.21	. 42	.01			.66	. 54	4				. 13	3	
uyler	Platte	T.	1.33							. 51	. 10	.40	T.							.21	. 80											.3	
ttsbluff	Blue.		2.00	1.50		. 02				45	.01		T	. 41	1.80		T.		. 01	74	1.25	.34			.40				T.			. 3.	
neyingfield	South Platte Blue Loup do Republican Platte Loup Missouri Platte North Platte Blue South Platte Platte Niobrara Elkhorn Republican do do do Platte Niobrara		. 03							. 56				0.05	. 62	. 64			. 12	.02	. 02	.07											
ingfield	Platte	T.	1. 15	.35			T	70		.24	. 28	T.		. 04	T.		T.	. 04	. 11	.05	2.70				. 12	- CTD	T.				94	2	
ingview	Elkhorn		. 20				1.	1.		1.06	. 10			. 67	. 15	. 25	T.		. 10	1.	T.	. 63	T.			T.	T.				3	3	
atton	Republican.	. 05									.21	.05									. 13		.70									. 23	3
erior	Missouri		.80	1 20				· m		1.00	1.70				0.5		T			10	1.75				1.4								_1
acusele Rock	do		1.	3.00	. 05					1.40	50		1	. 13	.00	T.	.08		.05	1. 25	3. 22		1	. 41	. 19								
umseh	do		T.	2.02	. 52	. 05					1. 46	.10						. 05			1.90	.30				. 30	0						
amah iversity Farm	Platte		- 14	1.58	. 08					. 52	. 04			1.20	1.20	.97				. 10	1. 16	. 42				. 02	2				. 6		
entine	Niobrara	. 02	.30			. 07	.00	. 04	.01	. 01		. 97	. 09	32	. 20				.07	. 01	. 07					T.		T		. 40	0	. 40	6
hoo	Platte		1.79	.34						.37	. 43			. 22	.07	. 72	. 12			1.00	. 52											1.2	7
ketield	Missouri		1.75	. 02				T.	T.	. 05				1. 72	. 29	. 22	.02		T.	. 13 T	. 18				. 05	T. 30	5				39	. 1	3
tertown	Platte	1. 52						. 01		. 94		. 04		1.00	. 24	. 01					.06		. 06		. 44								
camah iversity Farm iversity Farm boo keefield dthill tertown umeta eping Water stpoint sner kk	Republican .									. 25	. 05		. 10	0.05			. 05			. 20		. 40									. 1		-
eping Water	Missouri	T	T.	1.61	. 03	. 01				. 34	. 72			1.00	.06	. 16		.06		. 03	1.83					.24	1 .0	1					
	ASSESSED III.	1 2 .	11.10	Hanne.		Lever				1 . 62		Inc.	Ivers	IL. UL		1 . 40				- 111	(1)												:03

TABLE 2.—Daily precipitation for May, 1913. District No. 6—Continued.

-	Water-bad															ay o															*		
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Iowa.																											00				200		
Ott	Grand			1.55						1.01		• • • • •	.06	.79	.05	. 15		.05		.26	.09 T.	.32			T.	.08	.90			T.			6.
erton	Chariton Floyd		1.12	.19	.00				. 40					1.17	. 25	.11	.02		.01	.81	. 20	.02			T.	.39	.09				.01		4.
antic	Nishnabotna		T.	1.65	.02				T.	. 88			.04	.77	.01		. 01	.08		.35					. 01	.02	. 27					.01	
lubon	do			1.55		.38			. 57 T.					.64		. 96		.06		.30	. 75				T.	.12	.50				. 23	****	6
fordterville	Missouri Chariton				1.50					. 10				.37				. 15		.21	.17					.01		****			. 05	T.	Z
riton	do			. 45	1.10	. 57				. 44			. 12	. 55		T.		T.		. 12	T.					T.	.65			T.	. 15	T.	4
inda III	Nodaway				.83					. 54		. 05		T.	.05	. 10	.01	.03			1.38 1.78	.90			T.	14	. 25 1. 16				T.	T.	5 9
ning	Chariton				. 93					. 69		. 10	.10	.38		. 12		.22		. 21	.01	. 51				.03	.35			T.	.01	T.	4
rdonneil Bluffs	Missouri		. 23	1.16						. 45	.09		T.	.81	T.	.38	T.	.09		. 10	1.74				T.	. 20						T.	8
ton	do				1.42	. 20				.82			45.00		.81	.86		.03				.44				. 10	.70				.01	T.	6
berland	Nodaway Missouri	T.		1.25 2.41						. 06		• • • • •	.02	1.10	. 47	12	.17	.04		1.10	1.00					.40			1	****	.25		E
ison	Nishnabotna								T.	.47	. 03			.61 .79 .80	T.	.06		.05		T.	2.44				T.		.36				. 24		K
nfield	Nodaway			1.90	. 15				т.	. 50			. 20	.80	. 05					. 45					Т.	.04	.30				1.31	T.	1
lan	Nishnabotna			1.78				m	T.	. 39		.05	T.	1.01	.39	`ii	.09		T.	. 19	1.16 1.32				.03	.06	18				. 36		7
oode Park	Big Sioux Little Sioux.			1.30				1.	.70					1.39	.40	. 11	T.		T.	1.10	T.			T.	.00	. 45					T.	T.	1
oni	Grand			. 60	. 16	. 33				. 23	. 03		. 21	.35	T.	.12		.17		. 45		.06				. 22							1
fars	Floyd		1.85	.35	T.			T.	. 40					2.40	.24					.45					.01	.40	.08				.08	. 02	
0X	Missouri			1.70		1.10				.78	10	T.	05	.75	T.	. 13		. 15		.45			T.		****	, 10				T.	T.		1
le Sioux	Grand Little Sioux.	T.	. 43	1.56						.30				1.12	1.28	.50				.18	.80	T.			. 05	.10					. 28		
an	Missouri	T.	.20	2.35						.28				.72	2.61	. 40		. 03		.40	1.04				T.	T.				T.	1.31	T.	1
nt Ayr	Grand			1.33	. 23	.36			T.	.73						. 13		.10		.29	.11	. 20			1.	. 14				.03	T.	.04	
raythboro	do Missouri			2.66		.99			1.	. 65					.04	. 07		.09		.27	2.10				. 12		T.						
bolt	Little Sioux.	.10	1.65							. 61				. 57	. 61	. 53	.02			.85					T.	. 52					. 25		1
wa	Missouri		1.90	1 75						.56					. 48	. 20	T.	.08		.30	1.83				.01	.27						T.	1
fie Junction k Rapids	Big Sioux		.50	1.32					.60	. 90	. 13			1.25				T.	T.	1.20	T.	T.			. 10	.07					.20 T.	. 25	
don	Floyd		. 86	.30				. 03	. 50					1.20	. 20	. 20	. 03	.02		. 68	. 15				.07	.31						T.	
ey	Big Sioux		. 14						.04					1.20	1.20	.41	T.	.12		1.20	1.08					. 20					.07	. 62	
x City	Floyd Missouri		1.38					T.	.41				T.	. 73	. 34	.01	T.		T.					****	. 67					1	.30		
ncer	Little Sioux.																																1.
rman	Missouri		T.	1.78	T.			70		.40	. 68	3	T.	T.	T.	T.		1		1. 25	3.42				T.	. 14					26	. 05	
Kansas.	Little Sioux.	Т.	2.90	T.				T.	.75	****			****	1.52	. 90			****		1. 20	. 24			****	. 32				1		1		1
lene	Smoky Hill.			. 0	. 80	. 16						T.			.24					. 54	T.	.08											
icultural College.	Kansas		T.	.9	1 .15	.84				2.87	.4		. 63	2	.32 T	.00	T.	T.		.22 T.	.71		T.					***	T.	2	5	1111	
hison	Solomon Missouri	. 10										2		5	1.	. 14		. 41		1.47	.34					.10	0.03	3					
oit	Solomon			1.8	3 .20	. 01	1			. 93	. 50)			T.						1.20	0 .04		.01			T.		. T.				-
keman	Republican .		. 16	8					.12	. 32	. 0	5 .01	1		. 08							. 14											
e Rapidstralia	Blue				2 .60	.41				.00	1.0		0.3	3 .02	19					.31	. 78		T.			T					1	1000	
pman	Smoky Hill.									.0.																							
Center	Republican .		. T.	. 9	5						.78	5		5	.10					. 15	. 60												1
oy	do		1						97	. 1	.0	8 .00		1 T.)		1.46	1	. 2	T			. 90	0		T		0		1
cordia	Solomon		1.	2. 4	0 .01				45	36	1 .1	2 T.		5							T.	.3	3										
sden	Republican .		1.1								1.1	1 .0		2	. 46	T.							. 12				U	9					4
sworth	Smoky Hill.			5	7 .34	1					9	0		03	3						.0	2					3	0					
mett	Kansas			. 1.3		1.11				. 2	1.4	6		5		.5	1			. 82	.3	3	Т.			. 0	8						1
ridgensworth	Smoky Hill	T				2. 10				5		6			T.	. 0		1			1	T.	. 25										-
t Scott	Osage			5	0 .5	1.46	. 80	0				1	7 .5	5								- I . I	11										-
nkfort	Blue			8	3 .0	.02				. 2				5	. 14		. 01			. 00	1.1	5				. 1	0						1
nettdland	Osage Republican			2	0 1.0	.89					T.			8								2.7											1
nover	Blue	1000	1	1.1	5 6º	0	1			20	0 0	0 1	4 4	6 0	1 59	0	6	16	1	T.	. 9	8 .0	P										-
rison	Republican		3	7 2	8					9	4 . 4	8								97	7 .4	2						2	0	8	10	T.	
78	Smoky Hill			. 4.1	4 .3	2					. 6	2 .0	2 .0	6		T.					4	0	07				U	0					
ton	Kansas			4	8 .3	7					. 7	5	0	5	T.	.6	5	. 78	5	50	5 .3	1				0	4 T						-
ton	Kansas Solomon Kansas			2	8 1.0	9 .30	3 .4	3		0	4 .7	4 .2	1 .1	2	. T.	.2	8	18	8	03	2 .5	8 .6	2			. 1	4 T						-
cie	Solomon	. 5	1			2 0				3	4 .0	8 .0	3 .1	8	T.			61) T.	0 .2	0 .0				2 1		. T				-
vrencevenworth	Missouri		1.2	1 1	01.9	6 1 9	5				1 1	7	9			5	5	1.0	5	. 6	2 1	0				1						-	
anon	Solomon	1	1	5 1	0		1			1 4	8 6	5	-1 .0	7						2	1 .4	1								. T			
ora	do	1	6	0	1					. 1.0	9	1	2 .1	4 .2	3						4	- 1	8							· m		-	1
ticoln	Smoky Hill	. T.					T.	. 13	3 . 10	0 .2	5 .3	0			5					0	4	1 2	6	1	1	1				. 1			
dsborg	Smoky Hill			7	3 .4	3					4	6		. 4	0					1	1 .2	4					0	2					
Cracken	Smoky Hill do Solomon			7	0						7	7	6	31							2	8	0	5	0	1 T	(5	T			.0	6
neapolis	Solomon			6	6 .0	3				. 1	2 .5	8		. 0	8					2	0 .5	0	, T.			T				12 T			1
anoma																																	
ton	Saline Republican	1	1						. 2	6 .2	1 .1	1 .0	2 .0	77	. T.					0	5	2	7		. T.							5	
rlin	Republicando Blue Kansas do Osage Solomon Saline	0	4 1.6	6 T					. T.	.0	9 .0	4 T.	3	35	. 0	8						5	0 T.		-								-
the	Blue		T	1.8	4 .0	4			· · · ·	2	0 .2	0	è T	. 4	8 .1		. 0	2	8		0 .8	0				4		2	**				
aloosa	Kansas		0	. 4	7	7 .5	81.6	2	1.	. 2	o T	1 1	2			2	0		2	3	8	3 .2	3										
awa	Osage			0	1 2.0	8 .5	7				1	2 .0	5 .3	35							. 3.0	5 .1	2										
Ulipsburg	Solomon	5	7 .0	5 T						8	4 .1	6 T	. T		. T.					0	6 .0	06 .2	0.0	1		· 'm					09		
invilleasanton	Saline			1	5	è	4			1	0 .0			34						T		2 6	5 .1			. 1			**				
enemo.	Salomon Saline do do Republican Smoky Hill do		T		7 8	8 .4	7				1 9	1		35		T					. 2.1	1				(1 T						
public.	Republican		1.8	0 .2	0				. T.	1.1	5 .1	5 T	0	3			. T.			1	5 1. 4	7 .0	3										
SSell	Smoky Hill			7	2					3	4 .0	6		. T							2	7						52	(57			
ssell Springs Francis	Republica					· m	m				9			2 T		3		m			1	1 6	9										
11.13	Smoky Hill	T			5 2	8 .0	5			5	1	8		1	2	OT					2	2				T			T				
110	do								1	3 .0	5 .8	0			. T.															T			
	Caleman	1	1 9	0 0	181	1	1	1000	1	4	E 0	2 7	1	0	1	1	1			0	est s			-								-	SIF.
peka.	Solomon					:				9	0 .4	O L								2	4 .	10				-				06			

Table 2.—Daily precipitation for May, 1913. District No. 6—Continued.

	W-1-1-1														1	Day	of mo	onth															
Stations.	Watershed.		1	1.	1.	_		_				1			1															1	1		18
	,	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Kansas-Contd.																																	
alley Falls	Kansas			. 55	. 22	1.15					.30		.16			.20		. 45		.70	. 30					.02							4.0
inland	do		.04						T.	T.	. 15		.40																			****	2.
Wakeeney	Smoky Hill.		.23								. 40		. 14							.09	.03												1.
Wallace	do	. 12					.03	. 09	. 18	. 60	. 17											. 14									T.		1.3
Vamego	Kansas			1.56	. 30	1.56				. 50	. 32		.72		. 33			. 37		. 52	. 50		T.			. 02							6.7
Missouri.																							1										
moret	Osage			.05	.95	. 52				. 04	T.		1.02					.11			. 60	2.05								T.			5.2
ppleton City	do																																
Arlington	Gasconade					T.						18															T.						0.1
rthur	Osage				1.15							. 33	. 65													T.							2.
valon	Grand				1.00								.30					. 95		. 43	. 55						T.						
Bagnell	Osage												. 25						. 25														1.
Bethany	Grand				.76																												3.4
Bolivar	Osage				17			773														.06											2.
Boonville	Missouri	0 0 0 0			. 17						.04	.70	. 55						. 20		1.	.70			****	m							2.8
Brunswick	Grand				. 21							.35	.45						. 41		1 00	.71			****	T.				. 03			3.4
linton	Osage				.35							.30	.80		700										****		.01			T.	m		3.0
olumbia	Missouri				. 17						. 14	.09	.40		T.	02		. 04	. 03	. 04	. 28	. 11				.02	.01			1.	T.		1.4
onception	Gasconade			1.37	. 27	.08	42			. 31	. 50	. 44	.00		. 10	.07		. 20 Tr		. 18	. 22										****		4.0
rockerldon	Osage			10	. 11		40				70.2	. 44	1.10					07	04			14			*		21						1.2
avette	Missouri			06	.25	26	. 40				99		20					20	.04	51	50	26				02							2.6
ulton	do	0000		.00	. 10	. 30					10	10	27					. 20		.01	. 50	16	****			. 02				****			
lasgow II	do				. 10	20	. 64				. 10	. 18	.26						49		78	1.24											
rant City	Grand			1.55						40	. 41	T.	T .20	T.	T	20			. 22		.28	48	T			06	. 35						4.6
arrisonville	Osage			05	. 18	1 38	. 12			. 03	T.	41	136		1.	02			20	.08	06	2 62					. 00			T.			5.5
lazelhurst	Grand			1.18						T.	. 44		.00		.72	62			. 20	70	. 04									T.			6. 5
ermann	Missouri					. 02	34				. 04	. 16	10	0.4		. 00	T		06	.79		т.	Т				.30					T.	1.1
ouston	Gasconade					. 30	T				. 03	T	. 43	.01			28	T	T.		T						. 25				T.		
efferson City II	Missouri			-	26	. 00	42			05		35	60	****			. 20		.08			10					. 25					****	2.1
ansas City	do				1.08	. 14				. 00	. 17	T. .35	. 12		. 10			. 57									. 03						4.4
idder II	Grand				1.26	.77	.93				.37	. 18	. 28		120	.48		. 06	.24			.02											5.1
amonte	Missouri			T.	. 30	1.00	T.			T.	. 12					T.		. 10			. 14	. 20					T.						2.5
ebanon	Osage			. 25	. 10	1. 18						. 25	45					1.751															3.9
exington	Missouri			. 07	.09	1.27	.09					.21	. 22						. 46		. 90	.28				. 05							3.6
iberty	do			. 05	2.36	.84			T.		. 22		. 22		T.	. 32		. 48		. 83	. 19					T.			T.		T.		5.5
ockwood	Osage					. 80	. 64					. 17	. 57			T.			. 17			. 19											2.5
arshall	Missouri			T.	. 50	.38					.39	T.						. 59		. 42	.39	. 52				. 10				T.			3.2
arvville	do			1.07	1.10	.20	. 46	. 1			1.50	. 26	. 04		. 07	. 23		. 21		. 09	. 65	. 14				. 08							6. 1
ount Vernon	Osage			T.	T.	1.31	T.																T.			T.							1.3
evada	do			T.	. 42	. 65				T.		. 19	. 61						. 32			. 69											3.0
regon	Missouri			1.69	. 22	. 95					. 60	.11	. 45	. 16	. 01	. 13		. 03		. 16	. 36	1.03				. 14							5.7
sceola	Osage				. 22	. 86	2.58					. 11	. 94						. 32			. 26								T.			5.2
attonsburg	Grand				1.02	. 67	. 69			T.	. 68	. 10	. 20			. 34		. 10			. 31	. 17				. 15	T.						4.4
olla	Gasconade				.02	. 07	. 48				. 05	. 37	. 20						. 02								. 09						1.3
. Charles	Missouri				T.	T.	. 19			T.	T.								. 28							T.	. 09						0.5
t. Joseph	do			. 79	. 61	1.05				. 15	. 43		. 10	T.	. 26	T.		. 14		. 31	.77					. 12							4.7
t. Louis (1)				T.	. 16	T.	.09			T.	T.					T.	. 07	. 28	. 04	.31 T.	T.	T.				T.							1.5
t. Louis (2)	do				.34		.09				T.					T.	. 07	. 23	. 02	T.						T.							1.4
ablett	Chariton				2.00					. 12								2. 10	1.90		. 50												9.1
arkio	Missouri			2.50						. 25	1. 10		. 15					. 38		. 31	1.50												6. 1
renton	Grand		T.	1.72	1.07	1.02				.38	. 06	.08			1.09		. 02	. 14		. 41	. 03												6.0
nionville	Chariton				1.40	. 85	. 65			T.	1. 10	Т.	. 05		. 55	. 60	T.	. 10	. 15		. 45									T.		T.	
arrensburg	Missouri				. 94						. 07	. 20	.21					. 07		. 26	. 27	. 13											2.6
arrenton	do				.03	. 02	. 16					. 10					T.		. 09			. 35					. 20						0.9
VarsawVheatland	Osage			T.	. 30	. 40						. 42	. 56					. 03	. 13		T.						. 07						2.7
	do				. 65		2.20					.70										.34											

^{*} Precipitation included in that of the next measurement.

‡ Separate dates of falls not recorded.

¶ Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

Table 3.—Maximum and minimum temperatures at selected stations for May, 1913. District No. 6, Missouri Valley.

								Wyor	ning.			1		-				111	- str			Mont	ana.	and:	STHEN.			
ate.	Bas	sin.	Chey	enne.	Fo Lara	ort mie.	Lan	der.	Newc	astle.	Pathf	inder.	Sheri	dan.	Yellstone		Billi	ngs.	Dille	on.	Hav	re.	Hele	na.	Lew		Mal	a.
	Max.	Min.	Max.	Min.																								
1 2 3 4 5	44 50 68 50 56	28 29 34 30 30	36 51 53 62 56	31 28 29 35 31	41 48 68 68 61	32 30 30 31 36	33 41 56 59 61	28 28 26 34 35	50 44 60 56 56	35 30 26 30 32	43 44 55 56 64	27 30 28 35 31	40 46 60 43 51	30 29 26 33 36	39 41 48 41 52	25 28 23 28 28 28	55 51 64 46 55	32 31 28 32 34	44 44 48 52 50	32 33 36 36 36 32	52 51 46 48 55	22 38 35 31 25	47 47 49 43 47	24 35 33 30 34	50 50 50 48 50	20 24 34 25 21	55 55 54 55 51	20 23 33 30 27
6 7 8 9	78 80 81 79 78	38 42 40 40 38	67 70 64 46 63	37 38 38 38 40	80 83 60 53 77	40 34 39 39 40	71 73 69 69 78	35 40 38 39 43	70 72 60 52 74	38 40 38 36 36	72 75 69 71 74	33 37 38 39 41	64 71 56 66 72	39 42 44 43 44	65 65 62 67 67	26 37 37 35 36	69 72 54 58 74	34 44 44 40 41	55 64 65 63 64	38 39 37 36 38	60 58 41 55 70	30 35 38 38 38 37	67 59 49 60 62	33 42 40 39 43	63 62 40 54 71	29 39 35 35 35 36	56 65 57 54 75	21 36 31 31 31
1 2 3 4 5	80 78 80 76 81	42 42 45 41 44	72 69 61 48 60	41 38 43 34 36	77 73 59 55 65	40 39 45 40 28	67 68 64 62 61	41 43 41 34 39	75 65 60 52 50	46 42 48 38 38	69 73 68 58 62	46 34 38 34 41	66 65 63 61 63	41 36 41 33 34	56 50 44 48 48	38 37 30 27 36	72 70 58 60 65	38 35 48 35 40	68 60 59 63 65	38 33 32 34 33	59 61 48 61 60	45 37 37 27 38	58 58 53 57 58	39 42 42 39 41	59 58 42 52 59	40 38 40 30 39	71 60 46	30 44 3
6 7 8 9	76 74 70 71 70	34 36 34 36	60 49 70 67 53	41 37 43 40 34	70 66 76 62 66	34 39 41 40 37	66 60 67 50 60	39 36 43 40 35	52 54 52 58 56	34 37 44 40 35	66 59 70 66 62	46 35 43 40 36	55 51 48 44 58	38 41 39 35 33	48 50 39 44 48	32 30 31 30 32	62 57 45 52 64	41 35 42 38 34	59 58 56 60 65	32 33 36 38 35	54 54 54 49 58	41 31 39 35 32	52 54 44 51 58	39 37 37 38 39	53 52 42 45 59	39 34 37 32 30	62 61	3 4
1 2 3 4 5	80 84 80 84 84 86	40 46 40 42 44	57 68 74 76 73	39 36 46 49 48	64 78 81 78 79	34 35 41 47 50	65 74 77 78 79	37 37 43 47 47	60 70 84 80 84	40 36 50 54 56	62 72 72 74 75	39 35 40 51 51	66 75 80 75 78	38 33 41 53 51	58 68 70 66 67	33 34 39 41 42	72 82 82 81 84	32 36 39 48 48	61 58 63 65 71	40 42 40 38 42	68 77 77 79 80	34 44 44 49 48	67 74 71 73 77	39 45 47 46 47	68 74 71 73 77	37 36 39 42 43	72 77 79 87 85	3 4 4 5 5
6 7 8 9 1	88 84 90 90 88 89	40 38 40 42 42 43	78 81 77 79 70 76	47 47 48 47 49 46	83 94 92 90 83 82	41 43 46 47 48 47	82 79 83 70 69 71	47 49 53 50 50 47	87 91 90 92 76 78	58 58 64 60 54 65	82 81 79 76 74 78	48 53 53 51 49 49	82 87 84 71 77 74	46 47 52 57 56 50	75 72 72 64 73 71	42 47 43 41 41 44	89 90 86 75 85 85	50 50 50 50 54 55	78 80 81 78 79 81	40 44 44 39 42 42	83 85 82 76 81 76	53 57 56 57 49 53	87 81 72 73 79 80	53 52 50 50 49 52	85 85 83 79 81 78	47 55 47 45 48 45	88 92 87 84 86 83	5 5 5 5 5
fns	76. 2	38. 7	64. 1	39. 8	71.4	39.1	66. 5	40.1	66. 5	43. 2	67.8	40. 4	64. 2	40.7	57.4	34. 6	68. 2	40. 4	63. 1	37. 2	63. 2	40. 1	61.5	41.2	61.7	36. 8	69. 1•	40. 8
		Mon	tana.					1	North :	Dakots									1919	8	outh I	Dakot	a.	1				
Date.	Miles	City.	Pop	olar.		hold ney.	Bism	arck.	Dick	inson.		mes- n.§§	Will	iston.		ber- en.§§	Ellin	gson.	Hu	on.	Kad	oka.	Kim	iball.	Pie	rre.	Ra	pid ty.
	Max.	Min.	Max.	Min	Max.	Min.	Max.	Min																				
1 2 3 4 5	52 48 53 52 58	34 38 34 37 31	61 52 50 52 60	21 38 36 34 22	54 45 63 56 57	29 22 28 27	48 41 64 54 56	32 32 28 39 30	49 45 61 54 55	30 30 26 33 24	44 39 62 55 57	31 32 34 36 32	51 51 62 53 54	29 36 30 33 27	48 42 68 70 65	33 34 42	47 42 62 52 59	31 32 26 32 26	47 44 64 68 62	36 36 35 42 38	48 46 56 66 70	35 34 35 30 30	59 40 65 69 61	36 33 33 41 40	45 42 67 64 61	37 36 31 42 39	39 40 63 56 56	
6 7 8 9	68 71 46 54 75	40 46 44 42 43	68 67 53 52 78	28 32 32 36 38	63 61 56 68	23 30 32 43	62 66 49 54 64	27 35 32 39 44	61 62 56 48 70	24 31 30 32 39	60 62 52 57 64	29 36 29 33 35	59 61 47 51 74	24 38 30 42 44		34 35 35	59 67 51 43 68	21 32 32 32 32 37	62 70 58 56 65	32 48 43 41 44	67 75 60 46 63	43 35 39 38 45	60 79 63 57 58	40 48 42 38 39	57 71 55 55 55	37 47 42 43 46	62 68 51 42 65	
1 2 3 4 5	69 68 55 63 66	54 44 48 46 42	69 65 55 60 65	49 38 34 34 38	74 71 55 57	43 36 33 39	78 74 58 50 65	46 43 36 41 36	72 70 60 56 65	44 36 37 40 32	67 75 55 49 66	42 48 32 33 40	69 62 52 57 64	48 38 35 38 31	65 64	43 35 40	70 68 56 54 67	45 38 39 42 35	55	46 47 47 44 42	78 70 63 53 68	50 43 50 46 38	76 75 67 56 70		76 75 64 54 71	47 51 44 46 44	73 67 51 51 62	
6 7 8 9	63 46 45	44 44 42 38 37	54 58 61 56 51		65 56 60 57 49	27 34 51 35 35	59 55 57 47 45	38 37 30 33 37	58 54 50 44 47	29 37 44 31 34	61 56 59 41 45	36 40 29 38 38	59 54 60 46 46	29 36	55 44	43 34 40	59 57 44 39 48	32	63 51 48	44 42 36 40 42	60 60 56 44 54	45 29 40 39 38	66 64 54 45 46	41 43 41	61 61 50 45 52	46 44 39 40 42	58 54 46 43 52	
1 2 3 4	83 78	39 43 48 55 57	62 79 74 78 83	51		40 29 41 44 47	53 68 75 61 61	41 39 49 45 44	72 75 65	35 30 40 48 44	57 66 73 63 64	44 40	54 77 73 74 77	37 49 47	68 80 53	38 42 44	65	44	62 80 61	43 40 40 47 45	59 66 80 73 70	36 39 44 53 49	53 69 80 60 59	40 40 41	55 67 83 63 56	40 43 50 52 47	56 66 76 64 74	
6 7 8 9 11	92 85 80 85	54 62 60 62 57 65	90 94 87 84 85 83	58 59 50	87 83 83	44 43 56 53 48 59	86 92 88 88 84 85	46 49 62 59 56 57	92 86 80 80	49 47 56 52 52 59		51 63 55 53	82 78 83	51 59 56 48	94 90 94 86	50 58 61 61	88 86 80	54 59 52 55	92 91 91 81	52 54 64 62 63 56		45 55 65 50 60 50	83 94 93 89 84 85	58 62 64 62		61	85 91 91 82 75 81	
Ins.	100	46. 1					64.1			37.9	1					41.6		40.2		44.9		42.8		44.5	1			

TABLE 3.—Maximum and minimum temperatures at selected stations for May, 1913 District No. 6—Continued.

Sio	NIT.	1																Nebra									
			ter- n.§§	Yan	kton.	Den	ver.	Wı	ray.	Ab	ma.	Brie		Gra Islan	and nd.§§	Ha Spri		Heb	ron.	Line	eoln.	No. Pla	rth itte.	Oak	dale.	Om	aha.
Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
61 64 60 70 63	46 37 38 39 43	41 48 57 68 63	34 34 34 34 38	72 58 57 69 63	40 40 38 41 45	46 45 56 69	38 34 35 36 38	75 57 66 77 66	39 36 32 35 40	79 70 61 71 67	50 48 39 37 40	51 57 65 71 60	38 44 27 32 38	70 73 57 68 63	61 52 39 51 46	52 54 62 58 68	34 34 26 33 36	86 80 55 59 63	63 55 44 47 47	85 79 60 60 62	54 50 45 48 48	70 48 67 75 63	39 36 31 43 42	58 63 59 72 63	41 41 38 38 46	85 79 65 60 62	56 53 46 45 52
68 73 50 58 64	33 38 46 38 38	46 65 57 52 62	30 34 38 36 37	64 69 58 56 57	38 52 49 41 38	73 77 65 50 66	40 48 45 43 44	74 78 78 70 58	39 45 40 44 42	70 74 82 70 52	35 45 49 44 45	72 78 72 47 58	43 42 46 33 40	66 67 76 52 46	39 46 49 50 44	78 70 64 42 52	38 36 40 36 37	67 68 78 60 50	36 45 52 50 43	66 67 78 56 50	40 51 54 49 41	64 75 74 50 49	42 47 46 42 43	68 67 66 50 45	36 47 50 41 43	67 67 77 54 50	46 50 54 47 42
60 76 60 52 65	40 48 50 48 42	60 74 61 45 64	42 46 40 40 37	62 76 63 56 65	45 52 52 50 45	79 76 64 52 67	44 47 50 38 39	86 70 68 63 75	52 45 55 45 32	60 74 74 73 74	48 54 53 52 39	82 75 67 55 70	48 45 50 38 31	60 74 72 70 74	44 46 54 52 44	78 74 65 50 63	48 39 44 37 31	68 73 78 80 68	42 53 63 55 47	66 77 78 82 68	44 52 58 55 50	64 72 72 72 58 74	46 54 53 42 36	59 76 64 57 69	42 50 51 51 45	64 80 70 77 66	46 54 57 58 50
75 66 60 50 50	40 43 40 42 41	61 60 53 43 46	39 43 31 38 36	78 65 53 52 52	53 46 46 44 46	72 55 78 76 57	43 43 46 46 42	82 70 80 80 69	38 46 45 50 43	85 76 75 95 80	50 52 42 59 48	74 78 78 68 65	46 46 46 48 39	83 70 71 85 60	48 51 52 53 49	63 62 70 55 55	41 40 43 39 38	80 67 70 81 59	49 55 43 50 52	81 68 70 83 63	54 53 45 54 50	78 68 73 85 59	45 47 49 47 43	78 65 64 60 50	51 47 44 48 42	79 67 68 75 63	54 56 50 51
60 77 68 60	39 47 47	48 61 79 57 60	41 41 37 43 43	53 60 80 74 64	45 46 42 52 53	66 71 82 80 83	42 42 45 55 50	69 76 82 90 91	38 39 38 54 54	70 70 80 82 87	36 43 36 52 55	67 81 83 81 81	39 40 42 52 52	66 66 89 83 79	40 47 42 51 57	60 69 84 75 80	33 34 40 53 50	64 62 70 79 80	43 42 41 51 57	62 60 70 78 79	43 44 41 53 58	63 72 81 88 88	38 43 43 58 56	59 59 78 71 72	39 38 35 55 57	57 58 69 75 74	48 46 46 56
72 92 94 93 80 84	47 50 63 63 62 54	75 90 88 90 89 79	45 50 55 59 61 52	74 92 92 96 81 83	55 62 70 66 65 60	83 84 85 91 71 84	52 56 51 53 56 50	91 92 93 96 91 89	48 49 54 49 61 55	88 96 96 102 90 95	52 55 65 60 60 59	93 89 93 92 84 84	44 50 51 50 55 55	82 93 91 98 87 91	55 60 69 63 66 65	85 90 88 85 77 83	49 54 58 52 50 58	76 88 90 94 88 90	56 55 67 63 64 67	75 88 92 98 90	59 56 68 69 69 65	88 92 92 96 85 87	52 59 60 56 61 59	81 91 90 98 83 86	55 60 70 60 62 61	72 87 89 99 90 86	57 60 70 70 70 70
	61 64 60 70 63 68 73 50 64 60 76 66 60 52 65 66 60 50 50 50 77 76 88 80 98 98 98 98 98 98 98 98 98 98 98 98 98	61 46 64 37 60 38 70 39 63 43 68 33 73 38 50 46 58 38 60 40 76 48 60 52 48 65 42 75 40 66 43 60 40 50 42 77 39 68 47 60 47 77 39 68 47 60 47 72 47 72 47 79 45 93 63 93 63 93 63 93 63 90 62 84 54	61 46 41 64 37 48 60 38 57 70 39 68 63 43 63 68 33 46 73 38 65 50 46 57 58 38 62 60 40 60 76 48 74 60 50 61 62 48 45 65 42 64 75 40 61 66 43 60 60 40 53 50 42 43 50 42 43 60 40 53 50 42 43 60 40 61 66 43 60 60 40 53 50 42 43 60 40 53 50 42 43 60 40 53 50 42 43 60 40 60 60 40 53 50 42 43 60 60 40 53 50 42 43 60 60 40 53 60 6	61 46 41 34 48 34 60 38 57 38 65 34 55 48 45 40 65 42 64 37 66 43 66 47 67 68 47 67 68 47 67 57 43 66 43 66 43 66 47 67 68 47 67 57 43 68 47 67 57 43 68 47 67 57 43 68 47 68 48 48 48 48 48 48 48 48 48 48 48 48 48	61 46 41 34 72 64 37 48 34 58 60 38 57 34 57 70 39 68 34 69 63 43 03 38 63 68 33 46 30 64 73 38 65 34 69 50 46 57 38 58 58 38 52 36 56 64 38 62 37 57 60 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Mns	66.8	45.2	73.5	48.2	65.9	44.3	68.0	49.5	77.8	48.0	77.4	54.1	81.9b	53.70	76.3	55.3	80.7	51.8	76.4	55.0	74.7	57.2	77.0	58.0	70.3	48.9

^{*,} b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

DISTRICT NO. 7, LOWER MISSISSIPPI VALLEY.

ISAAC M. CLINE, District Editor.

GENERAL SUMMARY.

Moderate temperatures prevailed throughout the month, except that from the 25th to 30th maximum temperatures were above the normal, generally. The precipitation was generally light and scattered, and there were no well-defined rainy periods. There was no rain of consequence over the eastern portion of the district during the last eight days of the month. Snow, ranging from a trace to 14 inches, occurred over the mountainous portions of the Colorado and New Mexico areas.

The following table summarizes the chief features of meteorological interest in the various portions of the

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States and portions of States lying within district No. 7.	Mean temperature.	Departure from normal.	Mean precipitation	Departure from normal.	Greatest precipitation in 24 hours.	Mean snowfall.	With 0.01 inch or more.	Ciear.	Partly cloudy.	Cloudy.	Prevailing wind direc-
Colorado	59. 6 61. 4	+3.1	0.83	-0.98 -1.36	1. 23	0.3	5	16 16	12 12	3	sw.
New Mexico Texas	70.4	$+1.4 \\ +2.7$	3.00	-1.36 -1.07	3, 80	0	5	19	7	5	SW.
Kansas	67.9	+3.0	2.67	-1.36	3.80	0	7	16	10	5	8.
Oklahoma	70.4	+2.8	3.50	-2.17	4.01	0	6	17	9	5	8.
Missouri	66. 9	+1.4	2.12	-2.94	2.95	0	6	17	8	6	8.
Tennessee	68.5	-0.1	2.49	-1.77	3.58	0	6	17	4	10	S.
Arkansas	69.3	+0.1	3.32	-2.07	2.70	0	7	16	10	5 5	SW.
Mississippi	70.5 72.6	-1.2 -1.2	3.18	-1.06 + 0.62	2.80 4.90	0	7 7	19 18	7	6	8.

TEMPERATURE.

Mean temperatures were from 0.1° to 5.5° above the normal, except over Louisiana, southern Arkansas, the Mississippi area, and the western portion of the Tennessee area, where there was a deficiency of 0.3° to 4.2°. Minimum temperatures were below freezing, and maximum readings were above 95° at one or more stations in each State or part of State within the district. The highest temperature recorded, 106°, occurred at Anthony and Hutchinson, Kans., and the lowest, 10°, occurred at Elizabethtown, N. Mex. A maximum temperature of 104° occurred at Jefferson, Okla.

PRECIPITATION BY DRAINAGE AREAS.

Arkansas River and tributaries.—Less than the normal amount of precipitation occurred throughout this drainage area, except at a few stations in eastern Kansas and northcastern Oklahoma. Over the headwaters of the Arkansas River in Colorado the average from 36 stations was 0.85 inch, about 1 inch below the normal. The average from 42 stations in those parts of the Arkansas Valley proper that lie in Kansas and Oklahoma was 2.93 inches, about 1.6 inches below the normal. Over the headwaters of the Canadian River in New Mexico the average from 40 stations was 0.75 inch, about 1.2 inches below the normal. In those parts of the Canadian Valley that lie in Texas and Oklahoma the average from 31 stations was 2.91 inches, about 2.4 inches below the normal. The average from 20 stations in the Cimarron Valley was 1.60 inches, about 2 inches below the normal. Over the Verdigris Valley the average from 10 stations was 3.95 inches, about 1.4 inches below the normal, and over the Neosho Valley the average from 17 stations was 4.69 inches, about 1 inch below the normal. Below the Oklahoma-Arkansas line the average from 15 stations in the Arkansas Valley proper was 3.40 inches, about 2.2 inches below the normal.

Red River and tributaries.—The precipitation was below the normal over this drainage area, except at a few stations in its lower reaches. In those portions of the Red River Valley that lie in New Mexico, Texas, and Oklahoma, the average from 48 stations was 3.13 inches, about 1.4 inches below the normal. Below the Texas-Arkansas line the average from 20 stations was 4.37 inches, about

0.7 inch below the normal.

Mississippi River south of St. Louis and small tributaries.—The precipitation was deficient over this drainage area except at a few scattered stations. In the immediate Mississippi Valley the average from 40 stations was 2.33 inches, about 2.2 inches below the normal. The average from 23 stations in the Valley of the White was 2.18 inches, about 3.2 inches below the normal. Over the Yazoo Valley the average from 23 stations was 2.95 inches, about 1.5 inches below the normal. The average for the Valley of the Big Black was 4.62 inches, about 0.2 inch above the normal. The amounts from 16 stations in the Ouachita Valley averaged 4.85 inches, about 0.2 inch below the normal

Louisiana Coastal Plain.—The precipitation was unevenly distributed over this drainage area, the average from 37 stations being 5.17 inches, about 0.9 inch above the normal.

RIVERS.

River stages in Oklahoma continued below the normal. In Kansas there was more water in the rivers than for some time previous, but no flood stages occurred.

No high stages occurred in the lower reaches of the Arkansas River, and at Little Rock there was sufficient

water for navigation during the greater part of the month.
Stages in the upper reaches of the White River were relatively low. The lower White River was at a high stage at the opening of the month, but after that there was a steady fall.

No material changes occurred in the stages of the Red and Ouachita Rivers.

The Mississippi River fell steadily and flood water had receded from all overflowed lands by the close of the

Table 1.—Climatological data for May, 1913. District No. 7, Lower Mississippi Valley.

			years.	Temp	erature	, in c	legre	es Fah	renh	neit.	Prec	dpitation	, in inc	ehes.	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	tal sno	finch	Number of clear days.	Number of part- ly cloudy days.	cloudy days.	Prevailing wind tion.	Observers.
Colorado.			10				20.1	**		44.	0.05	0.50	0.05	т.	1	19a	7=	4.0	nw.	C. A. Short.
Buena Vista		7,955 6,700	13 6		+ 5.0	75	23†	19	15	44*		- 0.59	0.05		6	24	5	2	ne.	H. B. Rice. U. S. Weather Bureau.
Canon City	Fremont	5,343 6,098	25 33	61.9 55.0	+2.7 + 1.0	91 81	29 25	36 23	6	42	1.31	-0.61 -1.04	0.73	0	14	15	11	5	n.	Colorado College.
ripple Creek	Teller	9,396	12								0.13	- 1.85	0.06	2.0 0.5	7	24	6	1	sw.	F. G. Willis. George A. Mayes.
uchara Camps	Kiowa	4,209	6	64.0		95	29	40	6†	36	1.20		0.60	0	4	23 19	6 9	3	W.	Mrs. Mattie A. Kerr. Elizabeth L. Grey.
remont Exper. Sta	Custer El Paso	8,850	3	45.4		71	25	22	3†	31	1.82		1.12 0.77	2.0 5.3	12	- 8	15	8	w.	U. S. Forest Service.
arfield	Chaffee	9,510	20	56.2	+ 2.6	86	29	28	4	42	$0.27 \\ 0.87$	- 1.09	0.10	Т.	5	23 15	5	5	w. se.	Lloyd N. Felton. W. Hamp.
lamps Iermit Lake	Custer	10,000	3 21			89	29	29	4	51	0.98	- 1.37	0.40 0.23	9.0	6	22 18	8	3	sw.	John E. Graham. S. W. De Busk.
Ioehne (near)	Prowers	3,380	18		+4.7 + 6.6	96	24†	35	15		0.76	-0.98	0.41	0	4 7	29 15	1 16	1 0	sw.	Holly Sugar Co. S. H. Miller.
a Juntaake Moraine		10, 265	19	43.0	+ 2.8	66	31	16	4	32	1.95	- 1.20	0.67	14.0	10	4	19	8	SW.	Clyde C. McReynolds.
amaras Animas	Prowers	3,592	23 45	68.0	+ 4.9 + 2.3	99	29 29	38 33	14	47		-1.15 -0.92	0.30	0	3 7 3	27 8a	18a	0 4a	SW.	J. T. Lawless. American Beet Sugar Co.
a Veta Pass	Costilla	9,000	3				26†	14	3	40	$0.29 \\ 0.20$	- 0.93	$0.11 \\ 0.12$	1.9	3	16	14	5	W.	Clara M. Wright. U. S. Weather Bureau.
eadvilleimon (near)	Elbert	5,360	6	56.5	+ 2.6	88	29	28	4	43	0.92		0.60	0	4	17	11	3	S.	F. L. Palmer.
fadridfarshall Pass	Las Animas		10								0.67	- 0.46	0.17	2.0	8	9	16	6		Thomas Sawers. W. L. Williams.
faxey	Baca		2								1.15		0.50	0	3	19	9	3	sw.	L. H. Alberti. U. S. Forest Service.
fonument	Las Animas	8,700	21							40	1.13	- 1.00	0.61	T.	4	27 12	3	1	nw.	James W. Ingmire. U. S. Weather Bureau.
Pueblo Rocky Ford (near)	Pueblo	4,734	25 24		+ 2.9		29 29	30 33	4	40	1.43 0.42	- 0.25 - 1.40	1.23 0.22	0	5 2	22	18	0	е.	P. K. Blinn.
t. Elmo	Chaffee	9,500	14		+ 1.6		26	20	4	47		- 0.77	0.34	T.	6 3	17 24	8	6	SW.	Daniel Clark. M. D. L. Buell.
alida heridan Lake	Kiowa	4,065	11		7 1.0											12	12	7	w.	Howard Gamble. G. A. Storz.
tonewall	Las Animasdo		17	60.0	+ 1.7	84	29	31	4	41		- 0.53	0.40	1.5	9	3	22	6	SW.	Walter Dearden.
wo Buttes	Baca	4,100	2				29	37	15	41	0.95		0.41	0	6 4	19	12 16	0	SW.	N. G. Jones. Walter J. Krohne.
wo Buttes Reservoir.	Teller	10,100	9	46.1		70	25	23	3†	35	1.19		0.58	6.0	5 3	11	17 25	3 2	W. SW.	Fred Jones. David Konkel.
Vestcliffe		7,864	19 19	50.0	+ 1.1		26	19	3†	55	0.55		0.51	0	3	11	14	6	sw.	U. S. Forest Service.
Vinfield Voodman Sanatorium.	Chaffee		3 2				25†	31	3	37	0.05		0.05	1.0	11	14	24 15	2 2	w. se.	John G. Payne. Woodman Sanatorium,
Vortman	Lake	11,250	12								0.32		0.18	0	4	19	9	3	sw.	Mrs. Lillie Wortman. J. E. Bingham.
New Mexico.	El Paso								1		0.02		0.20							
Abbott	Mora	5,771	4 23	00 4				20		40	0.35	- 1.47	0.18 0.24	0	2 3	22 13	8 18	1 0	s. W.	Agent E. P. & S. W. R. Martin De Smet,
Albert	Colfax	8,849	4		+ 2.0		29	39	7		1.56		0.54	0	8	0	28	3	sw.	Miss J. Lucero. C. M. O'Donel.
Bell RanchBlack Lake	San Miguel	4,500	14				29	40	16	1	0.53	- 1.37	0.30	0	3 5	15	15 14	0	w. w.	Ralph T. Martinez.
abeza	San Miguel	5,406	4	68.0			25†		6	48			0.38	0	3 2	23	10	0	SW.	Agent E. P. & S. W. R. Do.
Sampana	Mora	9,000	4								0.90		0.42	0	3 9	11 13	19	1	w.	Alfred Lucero.
imarron (near)	Colfax Union	6,385	9 8	62.8			30	30	16	47	0.95			0	4	10	21	0	SW.	Capt. William French. Dr. N. E. Charleton.
lovis	Curry	4,129	4				24†	48	4	36				0	2	14	6	ii	sw.	John H. Barry. Agent E. P. & S. W. R.
Dawson	Colfax	6,396	4	58.8		. 86	127	24	3	48	0.46				6 3	18 15	11 15	2	s. w.	Do. Miss M. Carrington.
Elizabethtown	Union	8,465	13	59.2	+ 3.8	85	24†	29	15	47	0.46	- 2.02	0.18	0	5	15	15	1	SW.	David Rope.
Fort Union	Mora	6,835	53	54.2 65.5		83	30	25 39	15	47	0.45		0.20	0	3 7	14	3 14	0 3	sw.	M. C. Needham. J. A. Bauer.
Ioosier Ranch	Mora	6,722	2	56.0			241	30		43	0.55			0	3 9	19		0	SW.	W. H. Guthman. A. J. Meloche, ir.
ohnson's Park ohnson's Ranch	Mora	5,784	1								0.48		0.19	0	4 2	27	4	0	nw.	A. J. Meloche, jr. J. W. Johnson. Louis O'Brien.
Kappusake Alice	Quay Colfax	4,010 7,160	4								1.40		0.30	0	3	***				. Jesse Rickman.
ogan	Quay	3,851	3	67.8			25	38	16	56	1.25			0	0		5 6	0	SW.	John B. Reneau. J. G. Buchanan.
ykins (near)	Colfax	5,894	6								0.53		0.23	0						Dan N. Jackson. Dr. B. M. Porter.
delrose	Colfax	6,000	5 5	58.8			24	26	2	50	0. 25 0. 61		0.36	0	3	15	16	0	S.	Farmers Development
fills (near)	MoraQuay	5,985	2								0.44			0	5	13	5	13	SW.	J. E. La Rue. Agent E. P. &. S. W. R.
fontoya	Union	5,600	2					40	15	40					7	19		3	S.	Edwd. F. Grygla. Willard Belknap.
Vara Visa	Mora	5,880	7 2	66.8		1	25	43	15	40	1.80		0.34	0	4	7	24	0	80.	G. R. Abernathy.
Pasemonte	Union Mora		2								1.00		0, 20	0	2	11 21		0		J. J. Heringa. R. W. Boulware.
ortales	Roosevelt	4,004	3	69.4		. 97	24 25	45 32	15 15		0.91		0.90	0				6	nw.	Portales Irrigation Co. S. A. Wiseman.
laton	San Miguel	8,200	9		+ 0.7	84	20													John P. Condon. H. A. Nachtrieb.
Rosebud	Union Mora	4,500 5,884	2			92	29	38	15	40	0.90		. 0.25					2	sw.	Agent E. P. & S. W. R.
Roy (near)	do	5,880	2								0.50		. 0.30	0	3		15	0	sw.	Baum Bros. S. A. Dow.
t. Vrain (near)	Quay	4,200	6			94	29	38	5	42	1.01		. 0.37	0	4			2		Jesse T. White. F. M. Hughes.
an Jon		5,857	21		+ 2.8	98	23	28			0.25	- 0.99		0	4	21	10		W.	Agent A. T. & S. F. R.
an Jonolano			1 4			0.1	28	30					. 0.36				7	14	S.	Agent E. P. & S. W. R.
an Jon	do	5,661	4	01.4				1		,			(), 301	0						. A. L. King.
san Jon	Roosevelt	4,038	5								0.30		0.30						C144"	A. L. King. Miss Alice Blake. Lohn F. Seaman
San Jon. Solano. Springer. Faylor. Fexico (near). Frementina. Fucuzacari. Valley	Roosevelt San Miguel Quay	4,038 5,000 4,194	5 8	69.3		. 96	26	42	15				0.30	0	4	17		8	sw.	Miss Alice Blake. John F. Seaman. Miss M. L. Payne. C. E. Anderson.

TABLE 1.—Climatological data for May, 1913. District No. 7—Continued.

			year	Temp	erature	, in c	legre	es Fah	renh	eit.	Prec	ipitation	, in inc	ches.	days		Sky.		direc	
Stations.	Counties.	Elevation, feet.	Length of record, years	Мевп.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy 0.01 inch or mo	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind tion.	Observers.
Texas.																				1944
marillorcher City	Potter	3,676	21 2	68.2	+ 3.9	94	29	44	15	39	1.41 4.05	- 2.26	0.67 3.25	0	7 4	26 26	3	1 2	s. se.	U. S. Weather Bureau Charles H. Thuman.
rthur City	Lamar Fannin	590 566	21 9	73.0		97	31	51	5	37	9.41 4.74	+ 3.53	3.80 2.10	0	6 5	16 17	3 2 9	12 12	sw.	J. F. Humphreys. H. M. Norman.
nadian	Fannin	2,339 1,869	20	70.8		100	29	33	4	40	2.82 1.59		2.03	0	8 2	18 18	9	4 3	S. S.	R. M. Hibbard.
nildress	Hardeman	1,406	5								1.11	- 1.41	1.00	0	4					George Baker. C. W. Underwood.
arendonarksville	Red River	2,719 442	13	71.2 72.4	+ 0.3	103	25 31	46 51	7	47 32	1.48	- 1.81	0.50	0	5	15 18	11 9	5	Se.	Whitfield Carhart. J. W. O'Neill.
aude	Armstrong Dallam	3,397 3,998	10				28†	42	15	38	2.10 2.35	- 0.23	1.20 1.20	0	3 5	20	0	11	sw.	Ft. W. & D. C. Ry. W. D. Griggs.
alhart			13				201				4.52	- 0.30	1.80	0	6	15	2 0	14	S.	E. B. Wilson.
nleyenrietta	Clay	915	21	73.0	+ 1.8	99	28	48	74	40	3. 15 3. 65	- 0.83	1.00 3.45	0	3	21 16	13	10 2	S. S.	Robert L. Smith. C. K. Brown.
fferson	Marion		8			99					3.21		1.20	C	6	20 22	2 2 8	9	SW.	J. C. Kistenmacher.
emphis	Roberts	2,743	10	72.0			31 28†	46	16†	46	2.13 1.69	- 0.69	0.45	0	7	23	8	7 0	SW.	Ft. W. & D. C. Ry. J. E. Kinney.
chiltree	Ochiltree Carson	3,450	5								2.44		1.42	0	4	18	6	7		S. J. Allen. J. Sid O'Keefe.
ris	Lamar	592	24	71.6	+ 0.5	95	31	50	7	32	6.60	+ 1.40	2.47	. 0	6	16	8 8 0	7	8.	Robert A. Millet.
emons	Hutchinson	1,563	11	68.7 75.3	+ 5.4	97 100	29	41 50	22 7†	43 42	1.87	- 2.40	0.72	0	7 2	21 24 19	0	7	S. S.	C. S. Solomon. William H. Crawford.
ingo Crossing	Hopkins		3	66.5		93	28†	40		1000	3.40 0.67		1.40	0	5 2	19	3 17	9	S. Se.	J. F. White. R. S. Chamberlain.
erman	Grayson	745	20	72.4	+ 0.9	93	31	51	7† 7 15	28 44	4.06	- 0.96	2.07	0	6	19	4	8	S.	R. A. Gibbs.
ratford	Sherman	3,699 $3,501$	15	69.8	+ 4.1	96	28† 25	37 45	15 5†	44	1.50	- 3.37	1.07	0	6	7 21	23	1	S. Se.	J. W. Elliott. Lou Mulhall.
ellington	Swisher Collingsworth		1 21								1.62		0.64	0	5					J. D. Camp.
ichita Fallsinfield	Wichita	958	3								5.82		3.25	0	5	18	13	0	sw.	J. C. Mytinger. J. B. Newberry.
Kansas.																				
len	Rice	1,684 1,329	16	67.7		103	29	40	6	39 44	1.91	4 26	0.60	0	10	18	8	5	s. se.	Geo. Klady. R. H. Beebe.
thonyhland	Harper	1.951	25	70.2	+ 4.7	104	29 29	41	7	46	0.69	- 4.36 - 2.52 - 0.09	0.22	0	6	15 17	12 13	1	58.	C. W. Carson.
rlingtonanute	Coffey Neosho	1,010	20	67.4	+ 1.7		30†	42 45	23	38 37	4.91 3.26	- 0.09	2.26 2.04	0	5 4	10	19 19	4	8.	O. E. Sanford. C. W. Brown.
narron	Gray	2,700	- 1	68.1		99	29	34	23 23 22 7† 15	39	0.63		0.39	0	4	19	5	4	SW.	C. C. Isely.
ffeyvilleldwater	Montgomery	2,090	16	69.0 69.2	+ 4.5	96	30†	46 41	15	40 38	1.65	- 1.62	2.23 0.68	0	10	15 21	13 10	3	S. S.	A. F. Briggs. J. L. Stanley.
lumbus	Cherokee	898 3,348	23 16	67.6	+ 1.7	92	291	42	7	32	3.58	- 2.48 - 1.74	0.99	0	9	15	13	3	SW.	O. E. Skinner.
olidgettonwood Falls	Hamilton	1,234	9	66.4	+ 3.8	100	29 29	33 40	16 7†	55 38	0.38 4.37	- 1.74	0.38 1.98	0	7	14 18a	16 8a	1 4ª 7	SW.	W. R. Padley. E. B. Greene.
uncil Grove	Morris Kingman	1,234 1,680	29	66.6	+ 1.8	101	29	42 39	23	35 42	4.40 2.62	- 0.91	1.97 1.07	0	9 5	9 16	15 12	7 3	S. Se.	J. P. Blackledge. W. H. Morton.
odge City	Ford	2,513	39	67.3	+ 3.8	98	29	39	15	36	0.81	- 2.53	0.57	0	11	14	12	5	Se.	U. S. Weather Bureau W. Y. Miller.
dorado	ButlerBarton	1,291 1,790	11 38	67.8 68.2	+ 4.3	101	29 29	39 40	7† 6†	37 41	1.32 2.64	- 0.76	0.63	0	6 9	19	9	3 5	S. Se.	W. Y. Miller. Martin Musil.
nporia	Lyon	1,138 1,079	32 17	66.3	+ 4.3 + 1.7	100	29	44	23	37	7.45	+ 2.33 - 2.54	2.92	0	10	17	8	6	S.	W. H. Boyles.
ireka	do	925	17	67.8		101	29†	40	6†	37	3.02	- 2.04	1.35	0	7	18		3	8.	Mrs. T. C. Peffer. J. McDaniel.
rgoedonia		975	10	67.5		95	301	42	23	30	1.01		0.36 1.58	0	9	20 18	11 8	5	8.	N. B. Swink. B. W. Holmes.
rden City	Finney	2,836 2,235 1,116	24	67.6	+ 4.2	104	20	38	6	42	1.42	- 0.90	1.20	0	3	9	19	3	S.	B. F. Stocks.
ensburg	Kiowa	1,116	25	68.4	+ 2.0	101	29 29	41	23+	42 39	1.13 2.39	- 2.56	0.67	0	6	20d 13	2d 15	5d	Se. SW.	C. C. Raymond. W. H. Lawyer.
ward	do	1,112	6	67.7			291	42	23	37	3.14		1.80	0	7	20	3 16	8	8.	J. W. Eby. E. R. Kimzey.
gotontchinson	Reno	1,535	23	68. 0 68. 0	+ 3.5	106	28 29 31	42 43	22	44	1.07 3.54	- 0.40	0.55	0	8	14		1	S. S.	Sheridan Ploughe.
dependencea	Montgomery Allen	800 984	39	68.2	+ 3.5 + 0.7 + 2.5	94	31	43	22 7 7	32 34 50	7.10	+2.27 -1.70	2.81 1.65	0	13	16 14	10 14	5	S. S.	F. L. Kenoyer. U. S. Weather Bureau N. M. Herbig.
ne	Hamilton	3,440	3	66.6	T 2.0	100	29	44 35	9	50	0.47		0.20	0	4	8	11	3 12	sw.	N. M. Herbig.
more ngman	Hodgeman	2,268 1,504	12 5	68.4		103	29	42	6†	39	5.18		1.55	0	8	16	13	2	sw.	B. B. Anawalt.
Crosse	Rush	2,061	111	67.8	+ 5.4 + 4.0	104	29	42 35 34	6	50	1.54	- 1.82 - 1.61 - 2.28 + 1.05	0.70	0	8	16	12 17	3	se.	Rodney Torrey. C. H. Longstreth.
kinrned	Pawnee	2,993 2,090	23 28 27	69.0		104	29 29	40	6	48	0.10	- 2.28	0.10 0.23	0	8	14 16	11	0 4	8. 30.	H. H. Wolcott.
Roy	Coffeydo	1,138 990	27	67.2	+ 2.3		29	43	23	34	6.54	+ 1.05	3.10 2.20	0	8	18	5 2	8 16	8.	J. J. Bowman. F. W. Schmitt.
peraleksville	Seward	2,843	6	68.7		98	291	42	15	39	1.20	*******	0.35	0	7	21	3	7	se.	Dr. R. T. Nichols.
cksville Pherson	Stafford McPherson	2,032 1,495	24	66.9	+ 4.2 + 3.5	103	29 29	36 39	6	47	0.99	- 2.14 - 2.15	0.48	0	7 9	15 18	11	5 12	se. sw.	Mrs. Nelia Poling. Ed. F. Haberlein.
dison	Greenwood	1,074	12	66.4	+ 2.1	102	291	38	7	42	4.43	- 1.62 + 0.15	1.63	0	7	6a	20a	4a	se.	C. A. David.
riondicine Lodge	Barber	1,310 1,259	20 20	68.6	+ 3.9 + 3.8	103 104	29 29	41	23 23	37 47	3.09	+0.15 -1.34	2.75 1.84	0	8	14 21	15	3	S. S.	Jerry Forney. S. P. Garrison.
nneola unt Hope	Clark	2,558 1,410	16								0.78		0, 42 1, 12	0	5 6	21	6 7	3 4 5	SW.	A. P. Reece. H. N. Renfrew.
osho Rapids	Lyon	1,092	8								8.57		3.80	0	8	18	4	9	SW.	W. H. KeMullin.
ss Citywton	Ness	2,260 1,454	20 16			103	291	41	23	40		+ 1.50 + 0.29	3.00 1.85	0	8	14	13	4	S.	J. K. Barnd. H. A. Brush.
rwich	Kingman	1,496	17	69.4	+ 3.5 + 4.0	104	29	43	23	40	1.63	- 3.14	0.81	0	8	21	6	4	S.	N. I. Farris.
wegotsburg	Labette	899 934	19	67.4	+ 0.8	92	31	42	7†	32	4.50	- 0.83	2. 42 0. 95	0	10	14	14	3 5	sw.	Jas. M. Currigan. A. L. Scott.
ains	Meade	2,766	3	67.9		99	29	42	6	42 45	1.12		0.50	0	3	20	10	1		E. J. Henning.
attchfield	Pratt	1,950	18	68.6	+ 3.5 + 2.3	102	29	34 36 38	23 15 23 7	45	1. 29	- 2.31 - 1.53	0.70	0	5 4	19	11	1	S.	T. J. Arnold. M. J. Allen.
me	Sumner	1,218	27	68.6	+ 3.1	103	29	38	23	45 49 34	2. 25	- 2.71	0.91	0	5 9	14	9	8	8.	D. M. Adams.
danronto	Woodson	834 1,040	28 16	68.1	+ 2.3 + 3.1 + 2.9 + 5.5	96 105	29 29 29 30 31	40	23	34 41	5. 62		1. 42 2. 55	0	3	16 26	10	8 5 4	S. S.	A. Y. Buckles. M. A. Webb.
ysses	Grant	3,050	22	68. 4	+ 5.5	100	29 31	35	5	42	0.18	- 2.00	0.18	0	1	174	90	20	sw.	T. W. Marshall. R. C. Harlan.
	L DIWIOTO	940	11	01.0	+ 1.2	90	101	41	8	42	4.93	- 0.92		0	6	22 20	7	6	SW.	
alnut ellington chita	Sumner	1,225 1,377	17 26	69.0 67.9	+ 3.2 + 2.0	103 100	29 29	40	23 23	40 33	1.75 0.97	- 2.55 - 3.98	0.81	0	8	20 21	5	6	8. S.	E. O. G. Kelly. U. S. Weather Bureau

Table 1.—Climatological data for May, 1913. District No. 7—Continued.

			years.	Temp	erature	, in c	legre	es Fal	renh	neit.	Prec	ipitation	, in in	ches.	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of secord, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	. 4	Number of clear days.	of pa	cloudy days.	70	Observers,
Oklahoma.																				
lda		1,001 1,410	5	69. 0 73. 0	******	95 99	31 29	45	7 7	31 40	4.73 1.53		2.01 0.77	0	8 5	18 19	17 5	6 7	8. 80.	H. P. Sugg. U. S. Weather Bureau,
lva	Woods	1,350	8	70.7		103	29†	47 41	7	40	3.55		1.25	0	4	12	19	0	S.	S. A. Stech.
pache		1,255 1,575	19		+ 2.4	98	31	42 46	7	42	2.35 4.27	- 1.10	1.62 2.45	0	5	23 27°	4 2a	10	SW.	G. D. Teeter. J. C. Brower.
rapahordmore		872	11		+ 3.0		31	47	7	37		- 1.10	2. 10	0	7	20	4	7	se.	H. T. Nisbett.
artlesville	Washington	687	5	71.2		98	30	48	7	33	4.53		1.69	0	11	13	10	8		Dr. A. P. Owens.
che	Beaver	2,500 1,350	16	67. 1	+ 4.6	94	29†	41	3 5	39		- 0.88	0.78	0	5	26 20	6	5	S. S.	W. C. Frazer. Mrs. Frank Rush.
lvin	Hughes	713	8								3.73		1.20	0	8	20	0	11	8.	Thomas Purcell.
	. Comanche	865 1, 150	11	69.0	+ 2.4	97	31 30†	48 45	24†	38	3.55	- 4.93	1.75 2.10	0	7	12 13	2 11	17	S. S.	Chas. L. Kern. Squire Humble.
nickasha	Grady	1,091	11		+ 0.9	98		45		38	2.70	- 4.04	1.70	0	14	20a		80		Anna W. O'Neil.
evelandloud Chief	Pawnee	800 1,400	11	71.8	+ 4.3	100	30	41	6	44	1.83	- 3.83	0.81	0	A	17	11	3	se.	J. P. Stutzman.
awford	Roger Mills																			W. W. Blackburn.
dorado		643 1, 456	11		+ 1.7	97 102	31	48 45	24	37	4. 99 0. 49	- 1.03	2.44	0	7	20 18a	6 11a	5 1a	S. Se.	Nelson Houk. T. W. Lanham.
lk City	Beckham		1																	R. J. Carlile.
l Reno	Canadian		21	72.5	+ 5.2	101	21	45 43	7	38a	1.56 1.54	- 3.60 - 4.18	1. 01 0. 67	0	6	20a	5ª 11	5ª		Rose E. Walker. Uri B. Worcester.
nid rick	Beckham	2,058	11 8	72. 0s	+ 3.8	102	31	45		41 52	2.05		0.80	0	4	17 15	8	1	8.	A. W. Hanes.
ufaula	McIntosh	566 839	13	69.6	+ 2.9	93	31 31	42 42	7	35 37	3.75	- 1.16	1.50 1.59	0	7 8	19 15	12	8	S.	R. Uhl Brown. C. W. Prier.
airlandort Gibson		556	8	09. 5	+ 2.9	90	91	92	7	34			1.07	0	10	16	3	12	S. 8.	John T. Welsh.
rederick	Tillman	1,293	6	73.1		102	17	48	7	39	2.44		1.09	0	4	18	10	3	se.	B. B. Bradley.
earyoodwell		1,546 3,300	1 2	68.7		99	30†	44	7 15	42	1.32		1.50 0.90	0	5	21 20	6	5	8.	O. P. Ruth. S. W. Black.
uthrie	Logan	1,000	20	71.6	+ 2.2		28†	44	7	35	4.80	- 1.27	2.40	0	6	23	4	4	S.	S. E. Snyder.
uymonartshorne		3, 133 700	3								1.36		0.50	0	5	5	26	0	n.	A. L. Mordt. Frank Webber.
ealdton	Carter	900	19	70.0	+ 0.4	95	31	42	7	41	4. 19	- 2.14	1.95	0	5	20	9	2	se.	C. H. Heald.
elenaennessey		1,396 1,166	5 18	72.6	+ 4.8	102	31	46	23	40	4.09	- 1.07	1.97	0	4	18	11	2	8.	J. G. McCall. Mrs. M. C. Parks.
obart	Kiowa	1,396	10	72.9		101	31	42	23 7 7	42	1.26	******	0.60	0	5	19	11	1	8.	J. M. Pate.
oldenvilleooker		900 3,038	12		+ 1.1		31 28†	45 41	7 15†	34 40		- 4.00	1.00 0.81	0	9 5	20 11	8	3 17	8.	Eula Rutherford. H. N. Kelly.
ugo	Choctaw			71.0		91	29+	50	6	35	8.41		3. 63	0	8	24	3	4	n.	G. C. Montgomery.
urleyabel		4, 200 474	5	66.5		97	29	37	15	46	0.08		0.06	0	2	4	19	8	SW.	Dr. C. W. Meyers. M. L. Henderson.
fferson	Grant	1,062	19	68.8	+ 1.7	104	29	40	7	42		- 2.35	1.44	0	4	22	6	3	S.	T. E. Beck.
enton		4,000 1,046	12		+ 3.8		28† 30†	36 42	15	42 39		- 1.82	0. 26 2. 20	0	6 9	11	19	1	S0.	Wm. H. Guy. J. C. Cross.
ingfisherawton	Kingfisher	1,111	16		+ 3.8		17+	46	7 7	38	4. 93	- 3.00	2. 53	0	7	18 20	4	7	8.	Frank M. Head.
awtonka Lake	do		10		******						3. 22		1.80	0	4					W. F. Stuart.
cAlesterangum		698 1,585	16 20	70.8 71.6	+ 1.8	95	31 25†	45 45	7 7	32 43	6.25	- 0.65 - 3.18	2.27 0.40	0	5	15 20	3	11 8	se.	William Noble. F. D. Dodson.
arlow	Stephens	1,292	12		+ 2.9	95	30+	48	7	34	3.90	- 2.66	2.40	0	3	23	5	3	S.	William B. Anthony.
ayeeker		1,030	19	70.6	+ 2.6	100	31	42	15	43	4.20	- 1.93	2.90		6	21	6	4	S.	G. C. Gray. Dr. J. H. Baugh.
uskogee (1)	Muskogee				+ 2.7		31	46	7 7	33	5.41		1.98	0	12	14	10	7	S.	U. S. Weather Bureau.
uskogee (2) utual		614	14	70.2	+ 2.7	102	31 30†	45 42	7	31 45	5.31 2.33	- 0.98	2.05 0.95	0	10	21 22	3 4	7 5	se.	J. Harry Randall. Thomas Martin.
ola	Caddo		7		+ 4.7		31	44	7	46	1.77		1.05	0	4	18	11	2	80.	R. N. Schooling.
ewkirkorman		1, 149	15 18	71.6	+4.7 + 0.7	103 97	29† 31	47 45	71	39 38	4.95	-1.21 -1.97	3.30 2.50	0	4 7	17 16	11 12	3	S. S.	P. H. Albright & Co. S. E. Boyd.
orth Muskogee	Muskogee		10										1.00	0	10	10	8	13	S.	J. E. Walker.
akwood	Dewey	1,854 1,194	3 8	70.7		102		41		36b	1.67		0.62			23	6			Dr. L. H. Murdoch.
kemahk	Okfuskee	1,194	1	70.1		95	31	45	6	30	5. 60		1.85	0	7	19	1	11	S. S.	S. F. Smith.
klahoma	Oklahoma	1,247	23	69.3	+ 1.2	95	31	47	7	32	3.88	- 1.87	2.20	0	8	16	10	5	S.	U. S. Weather Bureau.
kmulgee auls Valley	Okmulgee Garvin	752 880	8	70.0	+ 2.5	98	31	41	7	41	6.81	- 0,64	2.58	0	5	26	3	2	S.	J. I., Maynard. A. M. Foss.
awhuska	Osage	918	12	70.8	+ 2.5 + 3.5	98 99	29†	43	7 7	36	4.97	- 1.75 - 2.45	4.01	0	6	20 15	10	1	S.	R. C. Block. S. E. Laird.
ankin	Roger Mills	920 2,200	14	69.3	+ 5.5	99	29† 31	44 44	61	38 44	4.08 1.27	- 2.45	4.00 0.48	0	7	18	16 12	0	S. SW.	Roy Kagav.
avia	Johnston	796	10	70.6		96	31	46	7	35	4.05	1 05	2.32	0	3	21	3	7	S.	R. G. Guptill. Thomas P. Myers.
c and Fox Agency	Lincoln	900 1,041	19 11	69.4	+3.5 + 2.3	97 95	31	44	7	33	4.08	- 1.65 - 2.17	1.99	0	7 8	10	9 21	1	se.	
yder	Kiowa	1,356	6																	Dr. W. C. Woodard. Will P. Watson.
illwater	Payne	880 790	20	70.1	+ 2.8	100	31	45	7	36	3. 31	- 2.74	2.52	0	6	21	6	4	5.	G. P. Hardy.
1Isa	Tulsa	700	24	69.4		95	31	47	7	30	7.36	+ 1.21	2.88	0	10	19	10	2	S.	Dr. H. M. Hutchinson.
nitaagoner	Craig	698 588	9 16	69.8	+ 1.3	95	31	42	7	34	5. 43	- 1.01	2.60	0	6	18	7	6	8.	Insane Hospital. Moro Hatfield.
aukomis	Garfield	1,258	16	69.4	+ 2.2	103	29	43	7 7 7	39	3.84	- 1.16	2.00	0	6	19	12	0	se.	R. C. Shades.
aurika eatherford	Jefferson Custer	988 1,639	2	72.1	+ 4.3	97	29† 30†	47 42	7 7	38	3. 02 1. 42	_ 4 97	2.75 0.88	0	6	20 14	7 12	5	S. S.	B. A. Swindler. Eugene Forbes.
ebbers Falls	Muskogee	479	14	71.6	+ 3.5	100	31	44	7	38	3.85	- 4.27 - 2.76	2. 10	0	6	5	23	3	w.	B. D. Boulineau.
hiteagle	Kay	945	9	70.8		102	31	47 30	7†		3.65		3.58	0	8	17	10	4 2	S.	John F. De Jarnette. Fred A. Baird.
oodwardyandotte	Ottawa	1,900	10	70.0		101	29†	30					0.83	0	6	16 17	13	13	S. S.	Henry Hicks,
Missouri,																				
elle	Maries		22	66.4	+ 1.3	98	31	40	11+		1.90	- 3.38	1.60	0	2	84		4d	S.	A. J. Wofford.
irchtree	Shannon	1,200	20	66. 0d	+ 0.7	95	31	40	15	45	0.63	- 3.70	0.35	0	3	18b	76	46	8.	V. H. Kirkendall.
ipe Girardeau	Cape Girardeau Dunklin	346	9 2	69.6		96	31	44	12	40	2.09 1.29		0.70	0	6 5	19 21	10	8	S. S.	D. L. Albert. E. M. Perry.
ruthersville	Pemiscot		22	69.8	+ 1.0	101	31	46	12	38	0.91	- 3.21	0.40	0	3	23	2	6	50.	H. E. Averill.
ssvilleean	Barry		3 15	65.6	- 0.7	91	31 29	36 36	24 7	39	3.26 6.00	- 0.11	0.95	0	12	28 17d	3 4d	6d		Mrs. Zuma Bloomer. H. E. Dean.
oniphan			10	67.7	+ 1.1	97	31	42	8†	42		- 3.00	0.37	0	7	17	6	8	SW.	W. W. Martin.
nuit City			10	67.4	+ 1.6	07	31	41	24	40	1.57	- 2.82	0.46	0	6	15	11	5	s.	R. C. Walton. A. C. Leech.
oodland	Iron	900	9	64.2		95	31	36	7	45	1.35		0.59	0	5	15	10	6	8.	F. M. Adams.
ollisteronton	Taney	1,000	4 36	66.7 64.6		92 97	31 31	38 35	7 7 8	42 45	3.20	- 2.80	0.80	0	8	21	9	10 11		W. P. Chapmann. W. H. Delano.
ORIGINAL CONTRACTOR OF THE PARTY OF THE PART	Iron Cape Girardeau	925 458	23	04.0	+ 1.9	91	31	41	24	38	1.00	- 2.80	0. 82	. 0	6	13	8	10	8.	L. M. Bean.

TABLE 1.—Climatological data for May, 1913. District No. 7—Continued.

7-		,	years.	Temp	perature	, in	degr	ees Fal	hrenl	heit.	Pre	cipitation	, in In	ches.	days,		Sky		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy of 0.01 inch or mo	Number of clear days.	Number of part- ly cloudy days.	Number of	Prevailing wind d	Observers.
Missouri - Continued.	Jasper	979	36	69. 4	+ 2.3 + 3.6	96	30	44	7		3.45	- 2.02	1.20	0	7	21	8 12	2	S.	Joplin High School.
Koshkonong. Lamar Marble Hill Mountaingrove. Mount Vernon Veesho New Madrid Dakfield Rolla	Oregon. Barton. Bollinger. Wright. Lawrence. Newton. New Madrid. Franklin. Phelps. Greene.	911 964 420 1,490 1,480 1,023 285 793 1,130 1,350	13 34 22 15 34 31 20 22 33 26	68.3 66.1 66.0 67.4 67.2 67.2 66.1	+ 3.6 + 2.6 + 0.2 + 1.8 + 1.4 + 1.0 	94 97 96 96 96 93 98 98	31 31 30 31 31 31 31 31	44 44 41 40 39 39 39 39 42 46	7† 7 12 24 23 7† 10 10 23	36 36	1. 23 2. 34 2. 45 1. 15 1. 31 4. 52 1. 58 0. 97 1. 30 2. 38	- 3.52 - 3.36 - 1.93 - 3.35 - 4.41 - 1.65 - 2.88 - 4.43 - 3.80 - 3.17	0.55 0.58 0.95 0.74 1.31 2.10 0.80 0.54 0.48 1.30	0 0 0 0 0 0 0 0 0 0	4 7 3 5 1 11 7 6 8 10	13 19 17 11 27 23 18 7 20 21	12 8 11 13 0 5 3 14 5 7	6 4 3 7 4 3 10 10 6 3	se. s. s. sw. se. se. se. se. se.	J. W. Hitt. E. H. Adams. A. F. Hendrix. Mo. Fruif Exp. Sta. J. R. White & Son. W. O. Buck. Miss Josie Smith. E. E. Steines. Prof. P. J. Wilkins. U. S. Weather Bureau.
Kentucky.	Ballard	445	32	67.4	+ 0.9	93	31	47	11	32	0.65	- 3.88	0.26	0.0	5	11	11	9	sw.	E. W. Horr.
Tennessee.	Shelby		31	68.6	- 01	94	31	45	12	36	2.92	- 1.32	1.60	0	5	16	6	0	8.	A. Thomas B. Etheridge.
Singon Solivar Srownsville Sovington Oyersburg ackson Genton Gemphis filan Trenton Juion City	Hardeman Haywood Tipton Dyer Madison Obion Shelby Gibson do Obion	450 361 311 310 450 325 409 440 345 360	30 31 30 30 23 11 42 31 33 18	68. 6 68. 8 66. 5 70. 0 68. 0	- 0.1 + 0.5 + 0.8 - 0.5 - 0.2 + 0.1 - 1.7 - 0.7 - 0.0 + 0.3 + 0.8	95 97 94 94 97 93 91 92 94 100	31 31 31 31 31 31 31 31 31 31 31	46 48 50 48 43 37 51 46 46 45	12 12 14 12 1 1 7 12 1 1 14 12	37 37 31 36 43 36 25 42	2. 20 4. 00 1. 88 3. 35 3. 19 2. 17 2. 97 1. 63 1. 57 1. 49	- 1.68 + 0.08 - 2.46 - 0.80 - 0.93 - 2.10 - 1.37 - 2.75 - 2.37 - 3.44	0. 61 3. 58 1. 15 1. 65 1. 20 1. 00 2. 51 0. 42 1. 06 0. 35	0 0 0 0 0 0 0 0 0	5 7 6 5 7 5 6 3 8	22 19 19 21 15 17 15 14 20 14	0 0 0 0 0 11 6 5 4 4	9 9 12 12 10 5 8 11 13 7 8	s. nw. s. se. n. s. sw. s. sw.	Miss Mary A. Smith. Miss Hattle N. Moses. James S. Ruffin. Miss Martha A. Sinclair. Shelby A. Robert. George S. Martin. U. S. Weather Bureau. Orlando F. Cantwell. F. L. Dennison. J. R. Oliver.
Arkansas.	Lawrence	250	8 21	68. 2 70. 2	- 0.1	95 95	31 31	43 49	12 24	40 35	2.27 4.19	- 2.38	1.10	0	7 5	23 17	6 7	2 7	S. SW.	McCullough & Guelck. J. W. Campbell.
satesville. see Branch see Branch seethonville sergman slack Rock srinkley alice Rock amden enterpoint larendon onway orning sardanelle oodd City sumas	Independence. Van Buren Benton Boone. Lawrence Monroe. Izard. Orachita Howard. Monroe. Faulkner Clay Yell Marion. Desha. Madison.	1,303 1,324 259 226 361 158 470 171 309 293 330 1,175	13 20 8 15 9 30 9 28 13 9 30 20 27 32 2 11	66. 9 67. 9 69. 6 70. 2 70. 8 69. 6 68. 6 68. 1	+ 0.9 + 0.5 + 3.7 - 0.3 - 1.5 - 0.1 0.0 + 0.5	97 91 96 95 95 92 95 92 95	31 31 31 31 17† 31 31 31 31	43 41 39 45 46 50 45 47 36	8 7 7 12† 24 7† 8 8 7	35 35 44	1.06 1.25 2.86 2.19 1.09 4.01 0.30 4.78 6.55 2.74 2.65 0.87 3.96 3.10 3.04	- 3.80 - 2.36 - 3.60 - 0.81 + 0.17 - 2.23 - 2.72 - 3.72 - 1.75 - 3.24 - 4.02	0. 32 0. 50 1. 45 1. 20 0. 55 1. 86 0. 20 1. 50 2. 60 1. 35 0. 76 0. 50 1. 03 2. 20 1. 68 1. 40	000000000000000000000000000000000000000	10 3 14 3 8 5 2 11 8 5 8 9 3 5 5	18 16 21 17 16 19 10 19 23 16	7 10 5 3 7 8 12 7 7	8 3 11 8 4 9	8. ne. s. se. se. s. sw.	Lelia I. Teter. J. E., Scanlan. U. S. Weather Bureau. John T. Maxey. S. J. Howe. H. L. D. Whitson. W. H. Stoner. R. H. Quarterman. J. M. Huddleston. Mrs. B. E. Bishop. G. H. Burr. Jacob Brobst. A. Bernard. Neal Dodd. Lawrence Waterman. J. M. Ricketts.
ldorado	Union. Lonoke Carroll Washington Dallas. Sebastian Pulaski Hempstead	265 1, 465 1, 451 481	9 6 12 26 3 31 2 26	69.6 70.4	+ 2.9 + 1.1 + 0.7	92 94 96 93 91 95	31 30 31 31 31 31	46 48 41 42 44 49	24 8 7† 7† 24 7	33 37° 45 37 34 29	5.06 3.55 4.48 4.40 3.86 2.99	- 2.20 - 1.86 - 1.92 - 0.21	1.35 2.50 2.18 1.75 1.92 0.74	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	8 6 8 6 11	11 12 13 14	17 18 12 8	3 1 6 9	sw. sw. n. e.	Jeff. J. Babb. J. C. Chennult. George W. Nichoalds. University of Arkansas. J. B. Atkinson. U. S. Weather Bureau. R. E. Brown. B. C. Logan.
eorgetown lardy leiens. ot Springs. uttig. unesboro nection ake Farm ewisville. tttle Rock utherville.	White Sharp Phillips Garland Union Craighead Union Jefferson Lafayette Pulaski Johnson	200 643 182 600 85 345 195 262 357 775	1 15 41 22 6 18 20 6 10 34 14	71.0 70.1 69.7 70.6 71.2 71.3	+ 1.6 + 2.0 - 1.4 - 1.2 - 0.4 - 0.1 - 2.7	98 94 95 99 96 95 94 91 91	30† 31 31 31 31 31 31 31	41 44 47 43 47 49 50 52 42 46	7 12 12 12 24 23 24 7 8 8 7†	41 43 41 41 38 36 38 26 37 37	1. 98 1. 21 1. 83 5. 84 6. 45 0. 80 5. 37 3. 48 5. 70	- 5.07 - 2.82 - 0.49 - 3.53 + 1.73 - 2.76 - 1.05 - 2.73	1.84 0.43 1.06 2.70 1.62 0.45 1.08 1.20 2.00 0.81 1.27 1.00	000000000000000000000000000000000000000	4 11 6 6 9 3 8 6 9 10 11 10	9 26 13 11 18 18	9 3 15 18 4 7 13	13 2 3 2 9	SW. SW. S. SW.	Wm. N. Harris. C. A. Caywood. J. B. McLeod. Army and Navy Gen. H. C. A. Berry. Benedictine Sisters. J. A. Lowderback. G. L. Spellman. F. W. Youmans. U. S. Weather Bureau. W. R. Hentschel. Miss L. C. Smith.
alvern ammoth Spring arked Tree	Hot Springs Fulton Poinsett	277 512 229	29 8 8	70.2 63.8	- 2.7	94 99	31 31	40	7†	44	1.27	- 2.73	0.70	0	6	10	19	2		F. Wallick. Chapman & Dewey Lun
lena	Polk Jackson Jefferson # Randolph Benton Ashlev Nevada Benton Miller Arkansas Logan Newton Miller Bradley Little River Garland Cross	1, 100 231 215 1, 250 122 327 1, 385 182 495 1, 050 2, 300 332 304 206	26 30 28 21 16 5 29 22 5 26 16 3 30 18 9 19 5	69.8 70.6 66.8 72.2 69.8 67.0 69.2 69.0 72.1 70.6	- 1.2 + 0.2 - 2.2 + 2.2 + 1.3 - 1.5 + 0.7 - 1.0 - 0.6 + 0.6 - 1.1	90 98 93 97 90 96 93 90 94 93 95 95 95	31 31 31 31 31 31 31 31 31 31 31 31 31 3	49 45 47 46 38 48 48 40 45 49 46 45	8 8 24 7 7 24 24 24 24 8 8 8 8†	27 39 36 39 1 33 38 36 34 33 36 37 39 37	1.30 2.64 0.90 4.30 4.69 5.95 3.39 4.20 5.22 3.51 3.81 3.39 7.30 4.92 2.79	- 2.95 - 2.16 - 4.14 - 2.26 + 0.81 - 2.83 - 0.67 - 1.86 - 0.13 - 0.94 - 1.30	0.60 0.82 0.37 2.42 1.85 2.50 1.10 2.26 2.52 1.37 0.93 1.82 0.72 2.33 1.46 1.56	000000000000000000000000000000000000000	6 8 3 12 6 9 5 6 6 8 6 11 5 9 9 5	16 14 9 17 18 23	6 11 19 7 9 3	9 6 3 7 4 5	sw. sw. s. s. se.	Có. R. R. St. John. Chas. Sprigg. J. H. Hudson. Benedictine Sisters. A. F. Stevens. T. A. Corson. Mrs. G. Cummings. Carl A. Starck. G. Field. H. A. Buerkle. New Subiaco. Abbey. George Paxton. D. E. Moore. W. J. Savage. F. B. Lane. S. D. Jester. John Seals.
Mississippi	Sharkey. Tunica. Panola. Calhoun Madison. Tallahatchie Coahoma	107 200 230 228 177 160	5 17 26 2 23 3 6	70.2 71.0 70.6	- 1.5 - 1.1 - 1.0	93 92 93 93 93 93 92 94	31 31 31 31 31 31 31	47 46 48 47 50 48 48	24 24 12 1 24 1† 24	34 33 37 41 36 36 34	2.02 3.20 3.07	- 1.96 - 1.29 - 0.54	1.00 1.50 1.25 1.52 1.26 1.13 1.27	0 0 0 0 0 0	8 7 7 6 8 6 9	17 21 21 19 18 23 17	10 5 4 7 8 4 2	4 5 6 5 5 4 12	ne. sw. sw. s. se. s.	E. W. Cook. H. J. Irvine. J. M. Cox. J. P. Havens. Dr. G. W. Smith-Vaniz. W. B. Burke. A. C. Tuttle. W. W. Boons.

TABLE 1.—Climatological data for May, 1913. District No. 7—Continued.

			years	Temp	perature	, in e	legre	es Fah	renh	eit.	Prec	ipitation	, in in	ches.	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of ainy day 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind c	Observers.
Mississippi—Contd		241	4								3.65		1.34	0	9	14	13	4	8.	C. K. Bailey.
Corinth	Alcorn	470 187	25 4	69.8	+ 1.0	98	31	47	12	38	2.63	- 1.20	1.60	9	6	19	1	11	80.	M. A. Candler. Rodgers Woollard.
Duck Hill Edwards	Montgomery	222	14 26	70.2 72.6	- 0.3 - 1.1	94	31 31	48 52b	24 1†	39 36 ^b	2.14 5.15	-2.10 + 0.92	$1.30 \\ 2.80$	0	5 9	13 20	14	1	8.	W. H. Eskridge. E. F. Farr.
Fayette Greenville	Jefferson	270 126	12 26	70.2	- 2.5 - 0.4	90 94 97	19 31	46 50	24 24	36 33	3.41 2.66	-0.67 -1.30	1.82 1.25	0	8 7	17 24	13	7	sw.	T. L. Darden, M. G. Harbison.
Greenwood	Leflore	140	13	71.0	- 0.8		31	49	24	37	3.75	- 3.65	1.00 1.25	0	7 4	22	2	7	80.	J. H. Stephen. W. F. Hallam.
Iernando Iickory Flat	De Soto	435	25	69.2	- 0.9	93	31	46	12	34	2.78 3.23	- 2.00	1.60	0	6	19 23 18	7 5	3	s. n.	W. F. Wood. H. Powell.
Holly Springs Kosciusko	Marshall	600 430	26 23	68.6 70.2	- 1.5 - 0.6	91 94	31	48 50	12 1†	28 35		-0.63 + 1.80	1.93 2.34	0	7 7	18 23	5	12	se. ne.	L. B. Mosby. E. L. Lucas.
Loorhead	Sunflower		4	70.0		94	30†	44	24	39	2.40		1.12 0.62	0	7 9	19	7	5		M. J. Wilkins. H. S. Gove.
latchez	Adams	206 475	25 24 25	70.3 68.9	- 3.3 - 0.5 - 1.2	91 90	31 31	49 49	24	36 34		+ 0.28 + 0.17	1.25 1.20	0	8	21 14	16	8	se. nw.	Catherine Garrity. Dr. C. W. Bolton.
Losedale	Claiborne Bolivar	143	5	71.0		92 95	31	47 48 52	24 24	36 33	4.05	- 0.42	1.23 1.25	0	7 4 7	21 18	3	10		H. H. Crisler. T. J. Murray.
uffolk	Madison		10	71.4 71.2		94	31 30†	52 47	24† 24	32 34		- 1.31 - 1.45	1.35 1.30	0	9	19 15	10	6	S. S.	J. C. Pitchford. Prof. Geo. H. Kent.
wan Lakechula	Holmes	130	8			94	31	48	24 12	34	4.03 1.83		1.15	0	6	18 12	18	6	8.	Dr. S. D. Robinson. Dr. M. P. Winkler. Prof. J. H. Dorroh.
Jtica	Lafayette	287	20		- 1.3	93 93	31 19†	48 48	12 24	33 36	2.43	- 0.85	$0.85 \\ 1.28$	0	5	22 15	3 4 7	6 12	8.	Dr. J. B. Dudley.
icksburgVater Valley	Yalobusha	247 300	42 24	68.8	- 1.1 - 1.9	90 92	31 31	48 54 48	24 24 12†	24 39	2.90	-2.96 -1.67	1.06	0	7 7	16 20	5	8	se. sw.	U. S. Weather Bureau. Miss Loula Erikson.
Voodville	Wilkinson	560 116	20 19	71.2	- 3.0 - 2.5	93	19† 31	49 47	24 24	27 34	3.44 2.28	- 1.07 - 1.31	1.62 0.68	0	8	17 24	13	7	se.	James E. Lee. W. H. Courts.
Louisiana.																				
bbeville	Vermilion	18 77	25 25	74.4 72.3	- 0.2 - 1.2	93 96	31	55 51 50	24 6	30 31	4. 25	+ 0.25 - 0.61	1.84 1.40	0	12 9	17 18	10	10	n. s.	Hon, C. J Edwards, Miss Nellie Graham.
mitentioch	Tangipahoa	130	25 1	71.7	- 2.1	93 95	31 9	50 46	24 24	34 35b	4. 50	- 0.67	2.00	0	4 13	14 22	16	1 9	n. s.	Miss L. M. Wentz. W. L. Anglin.
voca Island	St. Mary	9	2 25	74. 2	0.0	91	31		24	27	3.74	 1 1 15	2. 25	0	4 8	24 21	0 5	7	80.	J. N. Pharr & Sons. Elmo M. Bott.
aton Rouge urnside urrwood	Ascension	20	13 25	72.4	- 1.2	91 85	18† 30†	54 46	101	43 20	6. 20	+ 1.15 - 0.23 - 1.41	2. 65 0. 98	0	9	14 25	10	5 7 2	se. ne.	C. S. McFarland. Graham Myers.
ades	St. Martin		3 25	74.40		92 89	31	56	1† 24 24 23	26*	4.79		2.15	0	6	25 17	5 9	1 5	8.	C. E. Smedes. North Louisiana Exp. Sta
alhounameron	Cameron	6	20		- 3.1 - 5.5	86	31 31 31 31 31	61 56 47 52 50 55 53 51 48 50	23	33 28 30	4.68	+ 1.24 + 0.98	0.75 2.26	0	12 3 7	13	15	3	8W. 8.	Adolph Bruckert. Loyola College.
arrolltonheneyville	Rapides	67	2 25 3		+ 1.3	92 94	31 31	55 55	8	32 31	2.61	- 1.92	3.15	0	5	29 17 17	6 8	8	0.	Walter I. Tanner.
inclarelinton	East Feliciana	113	25 12		- 2.6	91 89	31 31	51	24	30	5. 52	+ 0.55	3.40	0	6	20	0 7	11	80. n.	Cinclare Cent. Factory, John A. White. J. B. Reily.
ollinstonovington	St. Tammany	39	21	72.3 72.6	- 0.5 - 1.7	95 90	10†	50	1 23 24 24 24 24 24 24	37 34	3. 69 5. 22	- 1.59 + 0.83	1. 32	0	8 7	16 20	3	8	8. W.	Cecile P. Champagne.
onaldsonville	Ascension	33	25	71. 5 75. 0	+ 0.4	92 93	31 18†	55	24	33 32	8.98	+ 4.68	1.46	0	10	15 26	10	6	8. n.	J. P. Lucas. John F. Park.
armerville	Union	177	25	69.4	- 2.6	88	17	51	22	30 i			2.48	0	9	21	6	4	S.	Picard & Geismar (Ltd.). W. P. Chandler.
ranklin	St. Mary	10		75. 2 74. 2	- 1.5	89 92	31 29† 31 28	57 55 43 40	25	23 30 37		+ 1.27	1.90 3.40	0	8 7	13 8 9	18	7	80. 8.	White Lake Land Co. Miss J. M. Bonney. Herbert R. Babington.
ranklinton	De Soto	302	19	72. 2 65. 2	- 7.0	95 87 91	28	40	22 23 25 24 24 24 24 24	40	8. 12 1. 97	- 2.05	2. 85 0. 61	0	6	14	5	14	8.	G. Foster Provost.
ammond		44	21	72.9		92	18† 31	52 52	24		10.10	+ 1.18 + 7.02	2.32	0	6 7 7	18 20	8	3	n. sw.	St. Charles College. C. C. Carr. Prof. John M. Foote.
ouma	La Salle		25		- 0.6	89	10	54	8	30a		- 0.83	0.90	0		22	0	9	8.	C. Estus Wilbanks.
annings	Morehouse		1	67.8	+ 0.3	96 94 89	18 31	55 36	24 23 24 26	32 43 30	2. 65 3. 95	- 2.18	1.38	0	6 4 7	11 23 10	15 2 18	6	80.	J. F. Buch. P. M. Donely.
afayetteake Charles	Calcasieu	22	25 12	71.8	- 1.4 - 1.7 + 1.5	95 92	31 29 31 31	36 54 50 59 40	24 26	38 25	4. 47	- 1.19 + 0.51	1.35	0	5	23 29	1	3 7	e. s.	J. J. Davidson. George Boudreaux.
akeside a Rose (near)	Lafourche		2 22	71.6		91	3	40	1	49a	2.50	- 0.66	1.90	0	3	8 24	17	6	S. Se.	Miss L. J. Nunemacher. Louisiana Delta Farms C
awrenceiberty Hill	Bienville		25	72.6	+ 0.3	96 97	29 31	56 47	24 24	31 38	3. 93	+ 2.08	1.77	0	9	20 14	6 4 2	7	n. s.	Hon. H. C. Warmoth, Dr. E. A. Crawford, Mrs. Bettie M. Dennis.
ogansport	St. Landry	45	9 25 25 25 25	74.0	- 0.5	98 91	31	52	1†	37	5. 34 5. 89	+ 1.57	2. 29 4. 00	0	5 10	23 16	1	15 7 7	8. 80.	Chas. B. McNeill. Miss Ethel Fort.
onroe	Ouachita	82	25 7	70. 6 72. 1	- 0.5 - 1.7 - 1.2	94	20 31	49 50	24 24	36 32	4. 63	+ 0.61 + 0.69	1.35	0	12	16	8	12	8. 8W.	Kathryn Key. Virgil E. Kinsey.
organ Cityapoleonville	Assumption		4	75.1		92	29†	55	23	30	4. 29 3. 35		2. 20 1. 90	0	5 4	18 11	18	9 2	se.	Leon Godehaux Co. (Ltd
ewelltonew Iberia(1)	Iberia	15	6 25 42	73. 8	- 0.7 + 0.3	89 89	19	56	24	24	7.62	+ 3.93	4.02	0	7	16	11	4	ne.	John D. Fultz. Mrs. John A. Gebert. U.S. Weether Bureau
ew Orleans (1) ew Orleans (2)	Orleansdo	51	25 21	74. 8	+ 0.3 - 0.9 - 4.2	92 88	31 31 30	57 54	24 24	22 31	7. 29	+ 4.06 + 3.20	3. 78 2. 57	0	8 5	13 14	12	6 14	80. 8.	U. S. Weather Bureau. Sugar Experiment Station
pelousasaradis	St. Charles	83	2	70. 3	- 4.2		20	52	24†	28	5. 11 5. 35	- 0.11	2.91	0	3	17	2	12	n.	Andrew Moresi. R. E. Boyce.
earl Riverlain Dealing	Dossier	29	7 21 21 12	70.6	- 1.1	90	17	48	24	34	4. 82 3. 88	- 1.37 + 0.70	2.46 1.38	0	8 7	26 18	5	8	0. 80.	Geo. F. Bancks. Leon Sanders.
ayne	St. John Baptist	268 44		75. 2	- 1.1 - 1.2 + 0.4	90 103	18† 28	54 46	24 24†	30 51	4.37	+ 0.70 + 0.19	1.70	0	6 7	18 15	9	13	8.	A. P. McNeil. Leon Godchaux Co. (Ltd
ichland Plantation.	Rapides	******	17	71.6	- 0.3 + 0.4	86 93	20† 17 31	46 54 48	24 24†	24 38 35	4. 46 3. 73	- 1.08	1.70	0	8 7	23 23 19	1	6 7	s. e.	A. B. Pendleton. Anna R. McCook. Andor M. Larson.
uston t. Francisville	West Feliciana	312	18	72.8	+ 0.4	95 90	21†	48 51 52	23 24 24	35 29 f 34	6.02	+ 1.95	2.00	0	11	16	9	8	S. S.	G. W. Newman.
hrevenort	Caddo	17	21 42	73. 8 72. 0	- 1.1 - 1.2	92 91	20† 31	52 54	24 24	34 26	3.11	+ 0.03 - 1.05	2. 50 1. 46	0	8	25 19	5	7	W.	William H. Gautreaux. U. S. Weather Bureau.
immesport outhern Univ. Farm	Jefferson	249 42	16								4. 27 4. 28	- 0.69	1.85 2.75	0	8	14 19	7	17	w. se.	Cassius T. Leigh. F. L. St. Martin.
allullah	Madison		20	71.1	- 1.0	89 93	31 4†	50 47	24 24	50 34	6.85 2.28	+ 2.38	2.47	0	5	15	11	5		G. W. Richardson. Neal T. Halt.
alker	Livingston	247	3	72.4		91	20	51	4†	39	9. 50		4. 25	0	8					Westly Milton.

^{*,} b, °, etc., indicate respectively 1, 2, 3, etc., days missing from the record.

** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

[†] Also on other dates. T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—Daily precipitation for May, 1913. District No. 7, Lower Mississippi Valley.

	Watershed.								41		Yes	-U				Day	of m	onth	١.													16/6	
Stations.	watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Colorado.																									1	1				1	1	T	
ena Vista	Arkansas			. T.					T.																		T.	T.				MA	
lhan	Big Sandy				-					72	13					••••			05	• • • •							T.		03				6
non City lorado Springs	Fountain			1	1	T.		.0	.0	. 48	T.				. 05			. 02	. 03		. 05			.01	. 01		. 13	.20	0 .01		.09		
pple Creek	Oil Creek								T.	. 04						T.						T.	. 02	.01			30				.44	.00	6
chara Campsds	Big Sandy													T.					T.			. 60		.10	.40						. 10		
irview emont Experi-	St. Charles		T	1.15	4 · · ·		T		7	1.12			. 21		08			20			06	T			- 05	T	.35				20		-
nent Station.		1	1	1		1	1					1			.00		1						.02	100			.00			1	ROLL BOX		20
rfield	Little Ark			T.					T.	T.	07				.07	••••					. 03				. 03			.00			.02		
mps rmit Lake	Big Sandy Grape Creek Purgatoire			. 25	R					. 40		12000	The latest to		Park and			6.00										. 18	.12				
ehne (near)	Purgatoire Arkansasdofountain			. 02	2					.03	.10					••••		. 06	. 05	03		T.						T.			.23	T.	
lly Junta ke Moraine	Fountain				T.			T.										.06	T.		. 35	.02		.12	. 15		. 20	.4			.38		4
ke Moraine mar	Arkansas			.11						1.14				• • • • •	.09	••••		T.	.07		.05	30	• • • • •	.12	.09	.09	.09	T.			.10		
Animas	do				1													.03		. 36	.09	.16	****		. 21		.12				.02		
Veta Pass dville	Cucharas Arkansas		T.	T				T	T	.01		• • • • •			12		T.	. 02			T	05			T	.08 T.	T.	T	.10	T.	T11	T.	
non (near)	Dig Sandy								T.	. 60					T,			T.			.08						.17				T.		
dridrshall Pass	Arkansas					1			. 10	.01		••••		••••		••••	••••	.08	.07	.17					• • • •	15	.08	1.09		••••	.16		
кеу	do			. 15						. 50																						. 50	0
numentth Lake	Purcetoire	1221		1 . 20						.07			****		****						.19		****	••••				••••			. 61		
blo	Arkansas			- 01	1	1			T.	1.23					T.			.06			.02	T.						T.			.11	T.	
eky Ford (near). Elmo	Chalk Creek	****						••••	. 20	.02				••••	.21	••••	••••	••••	••••	••••	.02	. 22	••••	••••	.03	• • • • •		34	.08	••••	••••	••••	1
da	Arkansas								. 04	. U3																		T.	.08				
ta Clararidan Lake	Huerfano Arkansas							••••	••••			••••		••••		••••				••••	••••	• • • • •	••••		••••		••••					• • • • •	1
	Purgatoire			. 19					T.	.04								T.										. 13			. 40	T.	
nidad	Purgatoire	••••		.07		T.	T.		.11	.04		• • • •			••••		• • • • •	. 13	.37		• • • •	T.		T.	T.	T.	.01	T.	.06	• • • •	.25	.15	5
o Buttes Reser-	do			. 19			.08		.02 T.	T.												.38										. 31	1
oir. tor	Oil Creek								T.	. 58		19.3						-			24				12	1:39	15	T.	123		.10	alla	
8	Cimmaron Grape Creek Clear Creek									11111	. 35											. 10						Line				. 05	5
steliffe	Grape Creek Clear Creek	••••	T.	.04				T	. 11 T.	.40 T	• • • • •			T	05			T.	T. T.	T.	T.	T.		• • • •	T.	T.	T. T.	T.		••••			1
odman Sanato-	Fountain			.07					. 04	. 33	. 05	T.			.30			. 02	T.					. 03	. 05			. 02			.03		E
um. rtman	Arkansas																		1				10		1/3	M. P.		100		A STEEL	(34)	7700	E
der	do			. 01			T.		T.	.18	T.							T.			.18						. 05						1
New Mexico.																									Y			(42)	-	-		2010	
bott pert rors II Ranch lek Lake pans acon aarron (near) yton vis sryo wason wason sabethtown	Canadian							T.		. 18														T.			. 17						1
pert	do			. 24	. 05				. 24													T.		.08			.12	21	T.		T.	T.	Ш
Ranch	do								T.													.07		T.			T.	.30	.02			. 16	
ck Lake	do							T															07	. 17			. 10	. 10		т.	. 04	.07	E
pans	do							T.		T.														. 00				. 40		1.	T.		E
con	do			· ·			. 42	95										m				70						. 12				.36	K
yton	do			1.		T.		. 23	T.	. 28	T.	. 21					••••	1.		.01		. 66		.01			. 02	. 20	. 05	****	. 23	T.	1
vis	Red																																
wson	do			T.		****		T.	. 04		****			****				****			****		****	.02			T.	. 15	T. T.	T.	. 16	.31	
abethtown	do							T.	.10																		. 10	. 10			. 25		M
om Union	Canadian			. 07		Т.		Т.	. 18	T.	• • • • •	••••	••••	••••				T.	T.		••••	. 07			T.	••••	T.	T.	••••	••••	.04	. 20	
den	do				. 06				. 30	. 23												. 15	. 07					. 40			.28		E
sier Ranch	do							. 18	T.	. 19	14						T.	52						T.	T.		. 22	. 13	. 02	.01	***	. 14	
nsons Ranch	do						. 03	. 08																			. 18					. 19	
pus	do		• • • •		T.				• • • • •	• • • • •		T.									. 20	T.			••••			1.40		••••	• • • •	30	
anins (near)	Red								. 09														T.					1. 16		****	T.		1
well (near)	Canadian	••••																	. 23						••••		14	••••				••••	
rose mi Ranch	Red																											T.			. 25		Į.
s (near)	Canadian								. 13	T.									T.				10				. 10	. 21			.36	. 04	
toya nt Dora (near).	do								. 10																		T.	. 25		****			
nt Dora (near).	do			T.	***		.02	T.		. 23													15		••••		. 45	95		• • • •	18	T.	1
Visa Verde	do			T.	T.	T.	T.	T.		. 08								T.	. 15				T.				T.		****		. 10	.34	
montesant View	do		• • • •				. 25		. 26														. 12		••••	T.	. 37				****		
ales	Red																		. 02			.01				1.					.90		
nada.	Canadian	••••							. 12																			. 40	. 13			.06	1
bud	do									. 38												T.						. 89			. 12		1
(near)	do								. 25										. 10					T.				. 20				. 25	
(near)	Red			****				. 10	. 10		****			****							****	****	****	T.		****	. 30	****			.33		
Jon	Canadian			T.	. 03				T.	. 35				T.								T.	T.	T.		T.	T.	. 26	T.	T.	.37	T.	L
nger	do			****				. 10	. 03	. 10						. 06						••••		****	••••	T.	T.	. 16	T.	****	****	.30	
lor	do						T.		. 36	T.												T.		. 04		T.	T.					T.	1
ico (near) nentina.	Red Canadian				****		••••		.30					••••				••••			••••				••••			****		****	••••		
umcari	do								*	. 32																	. 79			. 10			
	DryCimar'n.									. 28																							:
	Canadian				T.	.01																						g 2001	1		. 14		

Table 2.—Daily precipitation for May, 1913. District No. 7—Continued.

Texas. narillo Cacher City Rethur City Re	do		.40	.10	2.10 .38 1.00 .25 .75 .50	1. 21 .05 .65 .02	T.					T.		т.		,				т.		21 :	22 :	23		25 T		.01	28	.04		31
narillo Cacher City Rethur City Rethur City I anham Carl I Carl	Red do		.40	.10	3. 25 1 .19 2. 10 .38 1. 00 .25 .75 .50	1. 21 .05 .65 .02	T.							т.						т.						т.		.01		.04		
her City R. R. R. R. R. R. R. R	Red do		.40	.10	3. 25 1 .19 2. 10 .38 1. 00 .25 .75 .50	1. 21 .05 .65 .02	T.							T.						T						T		.01		.04		
sher City R. R. R. R. R. R. R. R	Red do		.40	.10	3. 25 1 .19 2. 10 .38 1. 00 .25 .75 .50	1. 21 .05 .65 .02	T.														-					-					1	
ham Caldress R Illicothe rendon cksville ude chart Canison R ley chart Canison mphis Canison R ley chart Canison R ley chart chart	do Sanadian Red do do do Sanadian Red do Canadian Red do Canadian do Canadian do Canadian do Canadian Red C C C C C C C C C C C C C C C C C C C		.40	.10	2.10 .38 1.00 .25 .75 .50	.06						1 .				T.	0 60		.02	T.		T	54									
Idress	Sanadian. Red		.40	. 10	.38 1.00 .25 .75 .50	.02				00						1.04	. 75	. 20 .		Т.		. 23 1	.04									
llicothe rerendon	do do do do do Anadian Red do		.40		.25 .75 .50	111				.03	2.03			.16	.07	.03												T.				
rendon	do		.40		.25 .75 .50	111										.02				.04	.03											
ley	do				.50		70			10	12	17		1	50						. 23 .		69				T.					
ley	do				.39		.78				1.20	. 12				1.90				T			. 84									
ley	do					. 15				. 18	.43	1.20										1	.10									
mrietta	do				.00	. 65	.50									1.80	1.00					1	. 10 .							****		
mphis amil Camil C	dodododododododo				3.45	. 17						.03					T.					FO 1	20									
minitree	Canadian do do do Canadian Red do do Canadian Red Red Red			.50		. 13	.10	.00			.38	т.			.25		.00			j	.00	. 30 1										
chandle cris R	do		.02	.32	.42		.02			.05	.45	T.			.30						.13											
ris R mons C anah R go Crossing mero C erman R atford C lia R lilington chita Falls. infield Kansas. den A tthony hland C rilington N anute narron C fleyville V ddwater V ddwater C lumbus N olidge A ttonwood Falls N onedi Grove nningham A	Red		lana.		1.42				.60	. 65	.65						****															
anah Rago Crossing Rago Crossing Ratord Cattord Cattord Calabar Rallington Ratord Cattord Catt	RedCanadian Canadian RedCanadian Canadian				. 05	1.23						.15				1.57	2.47						1.13									
mero Commero Commercia Comme	Canadian Red Canadian Red		Т.	. 33	.60				.11	.03	.50	.12								T.	.40							.06				
rman Ratford Clis. Restord Clis. Rellington Christ Falls. Rellington Christ Falls. Restore Clis.	Red Canadian Red				.32	.50	.08										1.40					1						12		· · · ·	70	
atford C lia. R ellington chita Falls. infield. R thony hland C rrington N anute narron C fleyville V dwater Lumbus N audige A attory A den A A A A A A A A A A A A A A A A A A A	Red				.70	.80	.17						1			.15	2.07						.17					.17		1.	1.	
eilington chita Falls Mensas. den					1.07	.03	.05		.17	.13											90			.01		.04		.01	T.		m	
kansas. len Athony hland Crinington Nanute narron Creyville V ldwater Chumbus N lolidge Attonwood Falis N uncil Grove niningham A dige City	do													.53						. 64				.01								
Kenses. lien A thony hland C rilington N anute narron C fleyville V dwater C umbus N blidge A ttonwood Falls N uncil Grove nningham A dge City				T	40							15				1.50																
den		****		1.	. 30	****	. 44			****	****	. 10	****	****	****	1.00	****					. 40	1.				****					
thony																																
hland . Curington . Nanute	Arkansas			.30							. 60	.02		.10	.12						. 39		.08				.07		. 03			
rlington Nanute narron Cffeyville V Idwater Clumbus Nolldge Attonwood Falls Nuncil Grove nningham Adge City	do Cimarron		T.	.12	.18	.10 T					. 02	2 .06								****	T.	T.	T.		.02		T.		. 02			
narron	Neosho		.06	*	2.26	. 68							. 88	3							1.03											
fleyville	do Cimarron				2.04	T.			T.	T.	.13	3	. 67		T.							.42	T.				.19					****
lumbus Nolidge A strong of Falls Nuncil Grove Andrew Mge City	Verdigris		.28	.03	2.23	. 14					. 70)	.18	3			.03		. 80						T.	.02						
olidge A ttonwood Falls N uncil Grove A nningham A	Cimarron Neosho		T.	.07	68	56				1 7	.10	2	46		T	20	.01				T.	.14			.10	T	T.					
ttonwood Falls N uncil Grove nningham A dge City	Arkansas									38	3																					
nningham A	Neoshodo			.41		1.97			T.		27		1.00			.43				.02	. 98	.01			****							
	Arkansas			. 60	.35	1.07			T.		2 .28	8	T.	1								T.					T.					
	do		T	.56	1 6536	.15	VI			07	7 .01	1		.01	.01	.02				.08		. 01			T.	.02	.02				. T.	.01
linwood	do		T.	1.16	. 69	.02			T.		.03	7.	T.	.20	8						.27		. 02				.18				01	
nporia N ureka V	Neosho Verdigris			.06	1.03 1.35	11.08	.73	5			27	5	1.12	2		.05				.16	.03	2.92										
ll River	do																															
edonia V	Cimarron Verdigris			. 25					T	- 36 T.		7 T.				T		m	T.			.06								T		
rden City A	Arkansas			.02	1.00	.00	T.			1.20	0 T.			T.						.05		.17							T.			
reensburgV	do Verdigris		T	. 15 T	1 04	T.			T	T.		1 T.												T.								
oward	do Cimarron		.19								- 0*	7	1		1	26					. 23											
ugoton	Cimarron	T.		T.	T.	1 15	.03	.01	T.	.42	2 .13	7 3 0 .10 0		T.					T.	.02	12	.23			T.		T.				22	T.
dependence V	Arkansas Verdigris		.02	.02	2.81	1.88	.01	1		0	1 .70	0	.00)		.00		.06	.23			1.24				T.						
M	Neosno		07	.32	1.35	.02				. 01	0 .01	1	. 90	m							-										T.	
tmore	Arkansasdo							04				0																				
tmoreingmana Crosse	do			1.23	.59	.98			.0	5	. 1.5	5	28	3		.18					1.5	T.	04		·		35			· · · · ·		3
				20.0						. T.		0		. T.						T.	.10	.10	.01				. 10		T.	T		
arned	do			. 21	.11						08	8	08	8 . 2	3						.14	T.			.08	.01						
Roy	Neoshodo			. 05	5 2.20	.67	7 .08	8		T.		6 T.	1.16	6								. 62							:			
beral C	Cimarron			.35	.01				T.	.16	0 .3	5								.11		. 25	.03			T.						
cPherson	do				. 39	.28	8 .06	6			58	8 .03	3		. 62					.20		.10					. 02	2	- Back			
adison V	Verdigris Neosho		. 15	5	1.63	3 1.05	5				2	5	46	6		. 6	5			T. ;	. 24						T.					
edicine Lodge A	Arkansas		. T.	.70	.36	1.84	4				9 .08	2 T. 8						T.		.10	. 19	.02				inne						
inneola (Cimarron			. 42	.11						. 16	6										. 05				.04	4					
sosho Rapids	Arkansas Neosho			. 15	5 1.20	0 1.02	2 . 42	2			1	8 5	1.3	3	1.12	T.				.50		3.80										
ess City	Arkansas		. 3.00	.14	4			. T.		. 1.00	0									. 21											. T.	
ewtonorwich	do		44	. 94	. 08	1. 36	1		T		0	6	. 2	3		1.8 T.					T.	. 01	.06				01	1				
swego 1	Neosho		08	. 02	2 2.42	. 25	5				1	6	. 1	4		. 1	3	1.05			. 23	.02					. T.					
ains (Cimarron			. 50	3	.95	. 3	5				i										.96										
att	Arkansas			. 22	2 .28	.70)		0	4 .0	5																					
chfield	Cimarron			87	T.	1 .01	5 . 17	7 T.	. T		1 1	7	2	5		1	1															
dan	Verdigris			· T.	1.20	. 50	0 1. 42	2		. T.		. 60	OI.OR	0		.1 .0	0		.70			. 38	T.				10	0				
oronto	Cimarron			. 15	5 2.55	5							. 1	7							T.									-	693	
alnut	Neosho			. 17	7 2. 02	2 1.30	0				1	2 0 1 T				. T.			.01		T.	1.31							-			
Vellington	Arkansasdo		Т.	.29	.81	7 - 55	7		T	0	3 .1	0 1 T.								****	****	T.	T.				3		Т.			
/infield	do											-																				
ates Center	Verdigris		. 02	.09	2.14	.21	1			- T.			- 1	2				T.			. 15		****									
Oklahoma.		-			1	1						1																			1	
da 11		1	1								1		1	1		1		1								1		- 1				-
tus [Conedian	1		1	-	1 20	2 2	4			1	04	2			2.0	1 0				O.	50										
lva pache	Canadian Red Arkansas			. 02	. 66	0 1. 22	2 .2	4				. 0	8			2. 0 T.	1 .0				.04								T			

TABLE 2.—Daily precipitation for Mag, 1913. District No. 7—Continued.

	Watershad		1								10,00	IS I		11		Day	of me	onth														
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
klahoma—Contd.								10																					1			-7
Imore	Red Arkansas				. 90	. 95	.05						10			2. 10	.06				.04	10	. 03									
tlesville	Canadian			.25	.78					.20	. 50		. 10								. 10	T.										
he	Red Canadian				1.64	.84	10	••••			.40	18		. 25		87	04	••••	1.20		. 40											
ndler	do				1.75		.80					.70	T.			T.			T. .25			. 30	T.						T.			
ttanooga	Red Washita			****	2. 10 1. 70	T.	.03	••••	****		R 27	.05 T.			1.70	40		••••	.25		1.60											
ekasha	Arkansas																															
d Chief	Washita Canadian			.81	. 53	.10		••••	••••		T.	T.									. 39			••••								
wfordant	Red				. 43	1.52	.04									2. 23	.21			. 53			.03									
orado	do			T.	. 49			••••			T.	T.			T.																	
City	Canadian			T.	4 05	00				1	40		10000								40											
d	Cimarron			T.	. 55	. 67	.12	••••					.04				.04		 .52 .35 1.07		.12					• • • • •						
aula	Red Canadian				.39	1.50				.10	.11		T.	****	. 35	.79		••••	. 52		. 80	.40	.04									
land	Arkansas			T.	. 39	1.59		••••				. 64	.10					. 22	. 35			1.13	T.			T.	.07					
t Gibson	Red			.26	1.09	.80	.97		1111		.00		1.	. 60	.09	. 95	.09	••••	1.07		1.00	. 40	.08		****							
ry	Canadian																															
dwellhrie	Cimarron			. 10	. 90		.06				. 13					20	••••	.80		. 13	. 25	1.00		• • • •								
mon	Canadian			. 21	. 50		. 15				. 45									. 05												
tshorne	do Red			T	1.95	T		••••			.02				95	.84					. 53		T.									****
idton	Cimarron															.01																
nessey	do			1.97	1.30	. 45		••••													. 37		T.	••••								
denville	Reddo				.40	. 65	.07					.21			.01	1.00	.02		. 61		.32	. 43										
ker	do			. 36			.08	T.		.81	.19	T.							T.	.11		T.										
oley	Red			.25	1. 25			T.		.06	.08			****	2. 17	3. 63				.01	. 57										.09	
el	Dad																															
rsonton	Arkansas Cimarron			1. 44	.77	. 15		T		26	. 28										T.	Tr.	05	T	Tr.				0		T	
fisher	do			T.	1.96	. 24			.01		.02									. 100	. 40		. 03			. 02						
ton	Reddo			2. 33	. 02						. 19				1.35	. 02			. 04		. 78											
tonka Lake lester	Canadian			1.80	. 16	2.01	.09					T.				. 84		T.	2.27		. 45	. 84							1			
gum	Red				. 13	. 40						. 10			.03		T.				. 25											
ow [[Washita	****			2. 40								****	****		. 60		••••	••••		.90										1	
er	Canadian				2.90	. 25					.20				. 40					. 25	. 20											
kogee (1) kogee (2)	Arkansas			. 10	. 18	1.98	.08				. 14	. 02	.26			. 02			1.02 .86			. 88	. 04									
ual	Canadian		.22		. 51	95				1.000	. 15									. 50		. 80										
8	Washita			T.	1.05	. 13				1.20	. 29				T.			• • • •			. 30											
kirk	Arkansas Canadian		T.	T.	2, 50	.30					T.		.30		. 42	T.		.38	****		.39	.35										
h Muskogee	Arkansas				. 14	. 80	1.00					. 79		. 18		. 60	. 03		. 46			. 21	. 04									
wood	Canadian Cimarron			62	.33	.38					.01					. 10				••••	.21	T.	••••	• • • • •		.02		T.	T.			
mah	Canadian		. 05	1.00	. 90						. 40					1.00				1.85	. 40											
homa	do			1.04	1. 16	. 16					. 51				. 13	. 03		. 58			.27								T.	1		
ls Valley	Washita			T.	2.58	. 41	T.								T.	2.32			T.		1.06	. 44										
huskav	Arkansasdo	T	T.	T.	4.01	.10	. 05				T.		. 43			. 23		••••	T.			. 15										
kin	Red			.24	. 22	.07										. 00	* * * *				. 48											
ia	Washita				. 72	1.01	2000									2.32																
and Fox Agency	Canadian		T.		1, 99	. 05	10				. 50	.02				. 56		• • • •	.08		. 15	. 30		••••								
ler	Red																															
water equah	Cimarron Arkansas			T.	2. 52	. 12							• • • • • • • • • • • • • • • • • • • •					••••			.06	. 31	T.									
a []	do			.07	2.30	2.88	.03					.97		. 34		. 18			.38			. 17	T.									
oner	do												.40						.89			.26										
komis	Cimarron		T.	2.00	1.35	. 25					. 05					. 05			. 09		. 14	.20										
rikatherford	Red		T.	T.	2.56	. 19					. 05	T.			. 22	T.																
bers Falls	Canadian Arkansas			T.	. 90	1.20					. 05		.25		. 05	95		.50		****	. 32					****	:::					
teagle	do			1.67 .26	1.91											.07		T.					T.									
dward	Canadian Arkansas		T.	. 26	. 17	1. 10	1.03			****	.47	50	••••		. 33						. 02				****		11	T.				
	namodo	****				10	1.00	****				. 50						****	. 51			.00		****			. 10		1	1	1	
Missouri.																								17		-						1
h Tree	Meramec Black												1.60					. 30								T.						
Girardeau	Mississippi						.02	. 50				. 12					.35	.70					.05				.18 T.	.70	0			
wellthersville	do				T.							T.				T.		. 32					. 18	.41			. 10 T.)			T.	
rille	White			T.	T.	. 95	. 82		****	****		1.	****	****	****	T.	.70		T.			. 26									1.	
	White Neosho Black			. 08	. 13	2.95					. 19					. 04	. 45	1.33	.37		T.	. 15					.00				.37	
phan	Blackdo				. 02	T.	. 13				T.	T.	. 12						. 05		T.	T.					. 10				. 37	
land	Meramec					. 07	T.	. 46				. 23					. 24	T.				T.					.37					
lland	Black					20	. 15					. 05	.25				. 59					.06				15	. 50					
ton	White				`ii	T.	. 03	T.				.10	T.					. 50				.35	. 67			. 10	.2	T.				T.
son	Neosho				T.		. 08				.03	. 15					.57				.30						.8	2				
n konong	Neosho Black				T.	.80	1.20 T.					. 50 T.	.45			T.			.30			T.	T.				9				T.	
ar []	Neosho					.57	.58						.49						.06			. 48	T.								T.	
ole Hill ntain Grove	Mississippi																.95					.70					.8	0				
nt Vernon	White Neosho			T.	T.	1.31	. 16 T.				••••	. 07	.74				T.	T.					.06 T.			T.					T.	
Madrid	do Mississippi			.70	.21	2. 10	. 16					. 32	. 32			. 10	.03	. 03	.28		T.	.27		T.		T.						
Madrid	Mississippi Meramec						.06									.10					T.			.08		T.	.0	.8	0		- 100	
	addiamed				1 . 00	.07	. 48				.05	.37					.01	. 02			1 4.	T.								-1		

TABLE 2.—Daily precipitation for May, 1913. District No. 7—Continued.

Stations.	Watershed.															Day	of me	onth.															
	Truck and a	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Kentucky.																-																	1
andville	Mississippi						. 03				T.	.03					. 26				T.	т.	.08				. 25				T.		1
Tennessee.												100					. 200									****		****			1.	****	
2.1											-																					1	
lington	Mississippi						T.						T. T.				. 47	T.				.10 T	1.60	. 15			Т.						-
ownsville	do						T.						T.				. 02	. 04		.01		. 12	3.58	. 20				. 03					
vington	do																T.	. 60		.05		. 10	1.55	. 10				1.00		****			
ekson	do					T.						.08			Т.	. 06	. 20	. 14	T.		T.	. 30	$1.20 \\ 1.00$					1.20					
emphis	do						T.					T.				. 01	. 09				. 20	2.51	. 35				.01						
lan []enton		1					T.			••••						. 05		. 27		. 42	T.	T.	. 35 . 35 . 46	. 36			T.					T.	1
nion City																.34	. 35				. 05	. 16	. 24				. 19	. 15					
Arkansas.																																	
icia	White				T.	T.						. 25	. 10)			1. 10		. 20	. 10	. 12		. 40										
nitykansas City []	Ouachita Mississippi					.58						. 26					1.20 1.40	. 15					2.00	1 94									
tesville	White					. 14	.08							. 04	1	. 04	. 02	T.	.06			. 22	. 32	. 12			T.	. 02				****	
e Branch	Arkansas			. 05	. 64	. 45 . 83 . 33	.06				. 24	.04	T.	1	.02	T.	T.		.50		.03	T.	. 30				T.						-
rgman	White			T.		. 33	.66						T.						1.20														
inkley [do					. 05		. 04					. 02				. 24					. 02	. 55					. 06					
ico Rock	do					. 20	. 10					T.								T.													-
mden	Ouachita Red			T.	.87	. 27	. 36					. 80				1.00	1.50	. 20		T.	T.	2.60	1. 25							****			
rendon	White					.76	T.	1.35			T.	T.	T.			.02	. 10	. 11				. 84	. 34										-
ning	White				.02		. 04					. 04	. 01			T.	. 50			41		. 20	. 10				. 12				.04		-
rdanelle	Arkansas					. 84	. 45	. 06					T.			. 05	. 60		• 73			. 08	1.03										-
dd City	White Arkansas					. 38	. 40									. 20	.30					1.68	.52										
ttonlorado	White Ouachita				T.		1.40				. 33	T				T.	. 35			T.		.37											
gland reka Springs	Arkansas						.06	.60									1.00	.02	T.	2.50	.02	. 24	. 96										
reka Springs	Whitedo			T.		1.75	1.65					. 19					71		2. 18 1. 19			.10					T.						
dyce	Ouachita					. 47	.01				. 60	.07				1.07	. 85		1. 19			. 80					.04				1		1
t Smith	Arkansasdo			. 12	.06	. 73	. 02					. 05	T.		. 38	. 39		. 34	.06		T.	. 47											
ton	Red					.56						1. 10					.28	****					2.40								1		
orgetown	Whitedo				.04	.04		T.			19	T.				er.	.04				. 05	. 06	1.84				.04						
lena	Mississippi					.00		.01					. 18				. 40		. 21		.00		1.06	. 05			.04						1
t Springs	Ouachita					58	1.62	.98				2.70			. 27	.34		. 60			.96	69	1.21										
esboro	White				T.					****					. 20			. 15				. 20	. 45										
ke Farm	Ouachita Arkansas				T.	. 89				.51		. 64				.92					. 21	. 81	1.08										-
wisville	Red	T.				2.00	.06					. 40				. 65	. 17			. 04	. 25	1.75	. 38										
tle Rocktherville	Arkansasdo				.07							1. 27					.03		. 16	. 38	.14	. 63	. 01				Т.						-
lvern	Ouachita					.40	. 25	.30					.10	0		. 12	. 18	. 10			T.	. 10											
mmoth Spring	White St. Francis					.02	.03		****		****		.18	3			.70		. 28	****							.06						
na	Ouachita																																
wport	White						.08					.14					82	. 10	.10			. 12	.60	.02									
ahontas	White															. 16	.37					.37					T.						
rtland	Arka.usas	1		. 05	.00	2.42	. 10	. 55			. 12	. 12	T.			.06	1.85	****	1.14		• • • • •	. 10	1.10	.74			.01						
scott	do			·		. 60	.88					.79	.39	8			.30		. 10		. 18	. 22	2.50	;									
gers	Arka.sas. Ouachita. do. Arkansas. Red. Arkansas. do. White. Red. Ouachita. Red. Ouachita. St. Francis.			T.	T.	1.33	.03	.04	****		.30	T.	.00	5		****	. 13	****	T.		T.	T.	2. 26	T.									
ttgart	Arkansas				T.	. 02	2.52					T.				. 16	.31					1.14	. 05				T.						
oiaco ain karkana	White			.07	1.	. 66	. 93				T.	T.				.35	.73	.60	. 24	. 20			. 93										
carkana	Red					.75	.08	. 25				.08	.0	5		.10	. 54		.03			.08	1.82	. 03									
rren	Red				T.	.75	1.50	.13				1.50	.00	8		. 05	.68		.28			. 09	2.33										
nne	Ouachita St. Francis			T.	.11	. 69	. 29					1.46			3	. 25	.75	97	. 24	T.	T.	. 91	. 22				T.						
Mississippi.	St. Francis						****				****	****				****		.01	****			1. 30	.19	. 04			****			****		****	
	Vanos										-				-																		
guillastin	Yazoodo					****	. 25	.80			. 20	.10				.82	.18				.08	1.50	1.00	••••			T						
tesville []	do do						.08						.10	0			.60					. 10	1.15	. 50				.30					
ton																					1	. 70	1.26		1			1	4		1	1	
arleston	Y azoo					. 12						.32				1.13						. 65	.70	. 15									
veland	00									1	1	1	1		1	8524	100%				3	. 23	. 66	T.	****			. 03					
166AM6	Mississippi					. 05						. 13			1	7.5	52		1 1		122	7.0%	1 264	14			1	387					_1
inth	Yazoo								T.					Т.	. 10 T.		. 13	. 22		. 32		. 36	.90	.70		• • • • •	****						
ck Hill	do						.11	T.	T.			T.		. T.	.10						T.	.33	1.30	.30									
wards	Yazoodo Big Black Mississippi					.40	T.					T.		11	T.	. 10	.05		.06	.70 T.		2.80	1.82	. 10									
enville	Yazoo						.05					T.	.0	6 .0	2		1.18	.07				T.	.87	. 41									
enada	do						.75					75	.2	Z		****	.44	1.25		.50		1.25	. 33	1.00				. 03					
rnando 11	do						****					. 10				****	70	03		.00		10	1 60	18		****		90					1
ckory Flat olly Springs osciusko	do					. 20	.04									.15	.90	97		• • • •	.80	1.10	1.08	70				10					
		10000		10000			. 01		10000		10000	10000									10000	· SFE	A . 150	. 6 27							. do		41

TABLE 2 .- Daily precipitation for May, 1913. District No. 7-Continued.

	Watershed.															Day	of m	ontl	h.													
Stations.	watersned.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Mississippi—Con.								11/2																		100				100		M
tchez II	. Mississippi					. 64	.20			. 12			.30				T.	.43	. 26	T	85		1 25	01		100	1310					0.0
atotoc	. Yazoo					. 33										. 35	T. .46		.40			1.00	1.20									
totoct Gibson	. Mississippi						.19	. 05				T.	T.		1.23			.10		T.	. 22		. 63	. 50								
edale	Big Black					1.28	T	28	45		80			••••		T	1. 25	• • • •	·m·		••••	***	. 95	1.05								
olk	. Mississippi						.27	. 02		T.		.08		.81		.77	1. 25 .14 .05 .63 .21 .68			. 23	****	.77	1.30	****			****	****	****	****		
- Taball	Vagon			1		1	. 24						. 28	.66			. 63						1.15	.59				. 48				
ula	do						.28			.00		.04				. 10	.21			T.			1.14									
ulaversity	Mississippi						.18				T.	14	••••		****	T 5	.21 .68 .25 .07 .55 .33		T	T	• • • •	.85	1 20	• • • •		• • • •						
ksburg ter Valley												T.		.01		.03	.07			.03		.78	.35	****	****				****			****
ter Valley	Yazoo Mississippi					. 15						.25				. 45	.55				T.	. 20	1.10	.20		T.						
odville	Yazoo				31	. 25	90	. 38	7	T.					. 15		.33					.30	1.62	. 10								
oo City							.00		1.	1.		.28			****	• • • •	.34	. 13				• • • •	.46	. 68	• • • •							
Louisiana.											-			1	17.11																	1, 15
eville	Coast					.01	.01	.60	.24	.01	.01	.01					.70	. 15			. 10	.57	1.84	VI				100	-8		19	- 12
candria	Red					T.	. 18				. 15		1.15			. 52	1.40	.50			T.	.08	.40	. 05								****
te	Rod Rod					1		-80			T.		.20				T.						2.00	1.50								
ca Island	Coast		1		.01	1. 54	.21	. 18		40	.04	. 15			.04	. 05	. 22			. 12	. 60	9 25	.37	• • • •					****			
n Rouge ! !	do								. 02		.12		. 18		. 18	.60		.48				20	3, 12	1.21			****		1	****		
Louisiana. seville candria tite loch ca Island na Rouge nside rwood ss soun seron oliton neeville inston ington son son son ladsonville chtown nerville	do					. 92	. 05	. 55	.50					.27	. 50	. 10	.66						2.65									
rwood	do							. 10					****				. 27					: :::	. 98	.10								
OID	Quachita				05	55	80	. 40			10	.44	. 10		69	59	.00		80	75		1.10	2. 15		• • • •							
eron	Coast										. 40				.02	.02	2.14		.00	. 10		.28	2. 26		••••	****	••••			****		****
ollton	do							. 26	.90				. 17		2.50			. 19					2.00	1.15								
neyville [[Coast							70					.26	·			1.00	. 55					.65	. 15								
on II	do						T.	.55	ii	. 30	23	. 22		1.	. 10	T	.70	20			m	3.40	2 55	1 05	••••							
nston	Ouachita				. 10	.70	. 18	.03								1.32	.33	. 20			*.	. 73	.30	1.00	••••		****	****				
ngton	Coast							.32	. 07		T.	. 10	1.24			.36		. 12					1.39	1.62								
Son	Coagt					. 12	: ::									T.	.54	:	.11	1.20	. 02	1.46	.27									
chtown II	do					. 18	1.10	1.45	. 07			. 30	.00	1 54	25	50	23	. 10		T.		61	2.80	1.85	****							
nerville	Ouachita															.00	. 20		****			.01	a. 10	****	****	****	****	••••	1	****	****	****
ence	Coast						. 03									.06						1.90	1.00									
klin	Pearl						99	T.	. 02	T.	T.	. 03	. 19					. 15	.01	.34			3.40	1.19								
d Cane !!	Red	****		****			42	15	••••	1.		.87	.40	****		• • • •	61			T.		1.76	2.85		••••							
chtown	Coast						.30					.70	****	.30		. 75	.01		****		****	1.50	2.32	.00	••••		****					
mond	do					T.		. 90		1.80		T.			.70	. 10	.60					1.10	4.90									****
ma]]	Red	****						. 65	. 20			. 35					. 10	. 05				.90	.50									
ings ! !	Coast	****			****		.08	02			****					• • • • •		1 04		••••			1 20	10		••••		••••				
k	Red						1.10				T.			T.		1.90						.65	.30	. 10			****			****		****
yette	Coast							T.		. 25	. 05		. 16				.09	.60					1.35	.44								
side	do					1 00	. 13	••••		. 75							2.00	. 25					1.34									
ose (near)	do		****		****	1.90		••••	• • • • •	****						1.20	40	20				1.30	1 00		• • • •							
rence	do								. 07								.40	.25					4.32	.66	••••	••••	****		****	••••	• • • •	
rty Hill	Red					1.77	.30	. 27								. 10	.75		. 05	. 21	T.	.38	. 10									
ings k. k. yette Charles Side. cose (near). rence rty Hill. msport ille len roe an City lellton. Theria.	Red				T	. 20	. 20	. 19	• • • •				00			m	.78					1.68	2.29									
len	do				1.	T.	.83	. 15			. 20	.05	. 93			02	.00	. 46	04	• • • • •	95	40	4.00	. 30								
roe []	Ouachita					. 02	1.14	. 04				.88				. 12	1.19	.04	. 12	.02	. 40	.02	. 94	. 10	****		****			****		
an City	Coast					70			. 51		.50		T.					. 02	T.				2.20	1.06								
oleonville	Mississippi					T.				****	****		. 25				Т.			. 25		1.90	. 95									
Iberia	Coast						10	1.20			****	25	20	• • • • •			60					1 98	4 00									
Orleans (1) Orleans (2) Orleans (3)	do		,				.81	1.06				.06		.78			. 89		T.	.55		.01	3.77	.01							****	****
Orleans (2)	do			1. 19			. 25	1.11					. 16	1.84			. 14						2.57	. 03								
Orleans (5)	do			. 30			. 20	1.45				.07	• • • •	.61			. 16						3.08									
Orleans (6)	do			. 00			.58	1, 12		****		.05		.65			. 76			.16	••••		4.59				****		****			
Orleans (7)	do						. 52	1.00	. 13			. 01		1.58			.39			.10		.01	2.55		••••		****		****	••••		
Orleans (8)	do						. 52	1.13				. 05		.38	. 10		.56			.28			2.20									
lie	do								T.				. 49				.38	1.08					2.91	. 25								
River 1	Pearl				****			.08	T			.02	.44	1.60		19	56	10			2.00		2 46	70								
Dealing	Red				.08	1.12	.59					.02	. 44			.08	.00	. 10		.21	T	.44	1.38	. 10			****			****	• • • • •	****
Orleans (5). Orleans (6). Orleans (7). Orleans (8). Ousas dis. River . Dealing. Le . Le	Coast							T.				.80	. 20				T.	.60				1.40	1.38 1.70 1.32 .96	.26								
land Plant'n	Red							. 22	. 54			****	1.09		. 03			.27					1.32	.90								
line	do	****	****		****		1.03	.10		••••	****	. 16	25			1.05	1.70	. 10			T.	.10	.96	. 05	• • • •							
on	Ouachita				.50	1.73	. 73	. 16		.04	.12		. 40			.08	. 34			2.00	. 50	. 55	.40 .16 4.12 2.50								• • • •	
rancisville []	Mississippi					.10			.88		.06	. 29			*	.08		*	*	*	*	*	.16 4.12 2.50	.57								
a Dealing ne rve rve land Plant'n line rrancisville veport	Rod Rod			· · · · ·	70	1 10			.40	.60					T.								2.50	.50								
nesport II	Coast Reddo			T.	T.	1. 16	.34 T	04			••••	T.	****		T.	.86	. 161.			. 13	. 34	. 09	. 03									
veport. nesport niv. Farm rtown ulah ker	Coast			.37		****	.45	. 10		.03		.07	. 04	T		. 08	T.	. 03			. 05		1.65 2.75	1.85								
rtown	do					1.08						. 57					2.30					2.47	43							****	****	****
man	Mississippi						. 23								20.00		.70	. 16		. 05			.42	.72								
OL III AAAAAAAA	COAST				1	1.00	25	50		50		1 50					95					4 OF	1 02									

<sup>Precipitation included in that of the next measurement.
Separate dates of falls not recorded.
Precipitation for the 24 hours ending on the morning when it is measured.
Precipitation is less than 0.01 inch rain or melted snow.</sup>

TABLE 3 .- Maximum and minimum temperatures at selected stations for May, 1913. District No. 7, Lower Mississippi Valley.

			Colo	rado.			1	New M	fexico.			Te	xas.						Kan	sas.						Oklah	oma.	
Date.	Lan	nar.	Lead	ville.	Pue	blo.	Alb	ert.	Cima	rron.	Ama	rillo.	Pari	8.§§	Doc	lge y.	Elle		Iol	a.	Libe	ral.	Wiel	nita.	Armore		Bart	les-
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1 2 3 4 5	86 81 73 73 70	49 38 42 40 45	51 42 40 48 54	30 20 14 16 24	69 70 58 69 63	45 40 39 30 44	79 76 74 76 73	51 50 44 46 44	74 69 60 67 68	34 30 35 31 35	81 81 73 60 66	56 59 51 45 46	85 82 73 74 76	56 56 60 64 57	80 79 64 60 66	60 61 43 48 47	85 77 68 60 63	59 63 46 48 49	83 81 69 64 72	60 60 57 57 52	82 88 68 63 68	58 56 44 51 43	82 73 68 64 62	63 64 54 54 52	84 74 68 73 71	57 59 62 57 53	86 82 71 74 74	51 61 64 51 51
6 7 8 9	70 80 88 78 77	48 50 45 55 48	59 56 56 56 60	23 28 29 28 31	76 81 77 59 70	42 45 44 47 48	75 75 78 74 88	47 39 50 49 49	75 71 70 65 79	43 39 43 33 37	69 76 72 76 74	47 48 52 52 52 52	70 79 82 86 88	57 50 2 56 60	66 74 83 77 70	43 47 52 54 54	68 71 80 80 71	40 44 55 56 57	68 70 76 80 70	48 44 51 56 48	66 78 84 81 71	44 47 55 54 55	66 69 75 76 70	47 47 57 59 54	72 78 82 85 86	54 47 48 53 55	73 73 80 84 87	5 4 5 5
1 2 3 4 5	89 85 92 84 79	53 51 49 55 35	59 62 52 47 47	31 29 31 21 21	85 80 81 66 75	49 54 51 47 38	90 90 86 79 81	55 57 53 46 49	81 81 77 68 70	39 47 48 45 34	86 92 89 82 74	54 53 58 56 44	82 91 88 86 78	60 59 60 64 59	84 85 93 81 75	56 60 63 50 39	78 85 90 88 78	48 59 63 63 42	76 80 84 79 75	48 57 64 66 57	84 89 94 86 76	54 54 59 61 42	76 80 87 83 74	48 66 66 65 52	88 92 88 87 72	60 62 66 67 70	78 83 87 82 77	6
8 7 8 9	90 85 90 89 86	43 43 61 60 49	50 56 61 55 45	31 32 29 29 24	83 69 84 81 66	43 50 48 55 52	84 78 82 87 86	45 46 47 52 53	78 75 80 78 75	31 45 47 41 42	86 76 82 88 76	51 55 52 62 52	80 89 88 88 82	58 57 58 64 64	86 74 75 91 71	50 53 48 62 51	86 80 79 92 83	48 56 45 64 56	82 74 79 84 80	53 60 54 64 59	89 78 79 90 74	50 52 51 64 52	81 72 75 86 81	53 58 52 64 55	80 92 86 90 85	55 60 65 65 69	84 90 79 87 83	0000
2 3 4 5	75 78 88 94 98	51 45 47 49 54	50 64 65 64 62	28 24 30 34 31	73 73 81 88 90	47 45 46 50 51	76 76 84 90 80	55 50 49 50 64	72 72 80 85 81	45 43 43 39 50	73 77 85 90 94	50 50 48 57 63	88 77 75 78 83	65 64 56 54 55	68 73 81 86 91	48 45 46 54 62	72 70 80 85 94	45 51 40 55 59	65 68 68 77 79	51 46 45 46 60	68 79 83 91 95	49 47 48 46 61	68 69 74 79 88	48 52 46 48 62	76 78 80 85 90	66 56 54 50 60	72 75 74 78 84	
3 7 3 9	94 94 98 99 96 98	57 61 61 54 64 55	69 64 64 69 69 67	34 35 33 32 34 31	86 88 89 91 80 88	53 55 60 54 57 49	86 81 90 91 82 80	53 61 61 62 58 59	80 79 80 83 80 77	53 45 44 43 42 47	92 87 93 94 93 92	67 64 59 64 64 62	92 87 89 91 92 95	61 64 60 60 66 64	89 87 96 98 96 96	62 60 65 67 66 60	87 90 95 104 102 101	59 56 67 63 65 61	78 86 86 95 97 98	59 52 60 65 67 66	91 89 97 98 98 96	59 62 61 65 67 75	83 86 90 100 98 97	64 58 65 67 69 68	97 93 96 97 98 100	65 60 60 67 67 63	89 87 88 95 96 98	
Ins	85.7	50.2	56.9	28.0	77.1	47.7	81.5	51.4	75. 2	41.1	81.7	54.6	83.7	59. 4	80.5	54.1	82.0	54.3	78.1	55.9	83.0	54. 4	78.5	57.3	84.6	59.4	82.3	60
							Oklah	oma.					1						Miss	ouri.					Bla	nd-	Jack	cson
ate.	Eni	d.§§	MeA	lester.	Mang	um.§§	Musko	ogee.§§	Okla	homa.		ther- d.§§		rd.	Carut		Iront	on.§§	Lam	ar.§§	Old	len.		ing- ld.	ville,	Ky.		nn.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Mi
} }	86 73 78 79 64	59 62 62 55 54	86 81 74 73 72	59 63 65 61 55	80 77 86 66 74	53 60 62 56 52	77 67 77 66 66	62 62 64 60 56	82 72 78 70 67	59 62 56 56 56 53	83 74 88 70 67	59 60 61 57 54	81 80 70 64 66	63 66 53 56 53	84 86 83 79 81	50 56 59 65 65	84 83 81 76 79	41 46 59 61 60	84 84 84 75 75	56 59 59 58 58			80 79 70 73 73	59 60 60	80 82 79 76 78	55 59 58 64 64	86 83 82 82 84	
3 7 3 9	61 71 76 82 80	47 43 51 53 56	70 75 82 85 86	57 45 50 55 58	74 78 85 86 88	49 45 49 49 60	72 74 78 80 72	57 46 53 56 58	68 71 76 80 80	50 47 53 60 60	68 77 83 86 82	47 42 44 50 55		30 44 54 55 57	75 76 81 89 74	59 51 50 55 58	62 70 80 84 57	55 38 35 42 44	69 72 78 83 75	51 41 53 53 55			64 68 75 78 72	52	71 70 76 80 68	58 49 52 57 50	78 74 83 87 78	1
]]]	82 91 85 72	55 56 64 65 52	84 85 87 85 78	61 60 66 67 58	90 94 97 91 64	61 69 59 63 54	75 83 77 75 77	62 60 63 66 61	82 85 86 81 69	61 63 66 60 55	89 92 93 89 73	56 60 63 63 52	95 89	62 59 66 64 46	64 75 86 89 87	53 46 53 64 66	56 74 87 87 83	45 36 45 57 60	74 83 87 84 77	53 55 55 66 62			75 85 82	50 60 64	68 71 83 85 82	47 48 52 64 69	83 88 89 84	
6 7 8 9	88 91	54 61 57 64 62	84 90 79 87 83	57 60 57 64 69	76 78 80 80 88	54 58 58 58 58	86 76 82 77 77	58 62 59 66 62	77 90 79 84 81	57 63 60 63 61	87 96 91 92 85	53 58 57 58 59	81 93	48 59 52 60 58	75 84 80 87 90	61 59 67 60 65	68 83 77 80 86	46	80 84 79 87 80	60			80 74 80	58 55 62	70 79 75 79 84	59 61 60 61 61	73 87 89	-
1 2 3 4	78 90	49 49 44 52 52	68 73 72 80 83	64 56 51 49 57	78 85 88 89 101	57 52 52 56 58	71 77	63 55 50 48 57	72 74 74 78 87		72 81 82 85 95	51 49 47 53 56	80 82 87	48 45 43 57 62	80 72 62 75 81	65 55 50 51 51	79 68 62 77 78		67 69 68 79 82	45			66 61 74	49 46 47	74 69 60 71 75	54 50 51 53	76 70 61 71 79	
3	94 100 100	55 56 64 65 60 61	90 85 88 91 92 95	66 58 57 65 67	99 100 101 101 101 101	62 59 61 64 61 59	84 85 91 92 94 96	63 61 58 63 68 66	90 86 89 94 94 95	64 66 64	95 94 97 98 100 100		90 98 101 101	64 66 67	90 91	62 57 51 57 68 68		50 45 50 71	81 85 87 93 95 97	69			79 84 90 90	52 58 62 71	85 86 88	53 65 72	81 77 85 89 92 97	
ns		56.1	82.0	59.5				59.5	80.4		85.9			56.3		58.0			80.5			1					e81. 7	

TABLE 3.—Maximum and minimum temperatures for May, 1913. District No. 7—Continued.

		Tenn	essee.									A	rkans	as.		In									Missis	sippi.		
Date.	Ken	ton.	Mem	phis.	Ben vil	ton- lle.		rda- le.§§	El :		Fo Sm		Har	dy.	Lit		Pin Blut		Tex		Wyn	ne.§§	Clar	ks- e.§§	Corin	th.§§	Gre	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1 2 3 4 5	82 83 82 81 80	46 51 54 52 60	82 83 82 78 78	59 65 63 68 67	81 80 70 75 73	58 58 62 58 55	85 84 76 74 72	51 55 58 60 58	85 82 79 77 65	52 55 59 62 59	85 82 74 74 76	60 60 66 66 59	82 82 79 76 76	52 57 61 65 59	82 80 77 76 69	59 62 63 67 59	85 84 82 85 68	49 56 61 65 57	92 86 76 84 76	59 64 60 62 57	85 85 84 76 70	49 56 62 63 67	85 84 83 80 81	51 58 56 63 66	86 86 82 84 86	48 54 56 62 64	84 82 82 80 79	53 55 57 59 68
6 7 8 9	76 73 84 76	59 37 47 49 55	74 72 78 82 77	58 55 55 63 59	64 70 77 80 79	51 41 47 52 56	65 73 76 83 81	58 49 47 52 55	70 75 80 84 84	55 52 52 59 61	67 74 77 82 82 82	54 49 52 54 59	67 72 80 86 70	52 41 46 48 46	70 71 77 84 79	58 52 52 59 61	75 73 80 87 84	57 54 60 54 60	70 81 84 87 87	59 50 60 56 59	69 75 82 87 79	60 48 45 52 57	80 77 84 87 84	60 57 53 56 57	78 75 84 87 80	60 56 51 58 58	81 78 84 86 87	60 57 57 58 61
1 2 3 4	65 75 85 86 85	51 44 50 66 66	63 76 84 84 75	54 51 64 67 64	74 76 84 80 78	55 56 61 64 59	71 74 88 84 78	56 54 55 60 61	69 83 85 83 75	61 56 58 62 65	72 76 89 83 78	60 58 62 63 61	62 69 89 86 83	48 43 54 63 62	68 77 86 83 76	56 52 62 65 64	70 81 88 85 72	57 53 55 63 65	75 87 88 88 88	60 55 59 63 65	66 79 91 86 82	59 45 55 65 66	63 80 85 87 77	56 49 58 65 67	67 81 86 84 84	52 47 56 64 64	74 80 89 87 82	62 54 56 64 66
6 7 8 9	78 81 80 84 85	58 61 60 57 59	71 84 80 86 85	62 62 66 63 69	79 86 77 82 79	58 56 58 62 65	79 87 80 86 84	59 58 62 65 64	79 87 85 88 86	61 60 65 64 65	82 90 78 89 83	59 61 61 65 64	73 83 80 84 86	60 58 59 59 62	79 86 81 87 84	62 61 62 64 67	78 87 86 89 87	62 60 63 63 64	89 93 90 91 87	58 62 60 66 65	78 86 87 88 90	63 56 64 63 66	75 87 85 89 88	62 62 64 . 62 64	71 84 87 88 88	60 64 58 58 58 63	78 86 86 90 88	62 61 64 63 65
21 22 23 24 25	71 71 60 71 78	65 57 49 52 48	74 68 60 70 79	64 57 53 54 59	68 69 66 75 79	55 51 45 43 53	77 73 71 74 79	66 57 53 48 52	76 66 71 75 80	68 62 51 46 51	76 73 70 74 80	63 59 54 50 56	79 74 66 77 80	67 53 57 44 57	76 72 66 73 78	66 58 56 53 57	71 68 68 75 80	66 63 53 47 51	85 77 74 78 84	67 63 55 49 50	76 65 65 75 81	65 57 50 46 50	79 65 68 73 80	69 64 52 48 51	80 68 62 71 80	64 64 52 54 50	84 71 68 75 81	68 65 56 50 53
26 27 28 29 30	87 75 83 86 89 93	60 55 49 57 67 65	80 75 83 85 87 91	64 59 60 69 70 72	83 80 84 88 89 91	52 52 58 67 64	87 83 86 90 91 92	58 57 53 55 66 66	85 83 86 89 90 92	55 56 54 58 64 62	89 85 87- 92 92 95	64 62 58 64 69 69	89 83 92 92 98 98	61 54 51 59 69 66	85 81 86 88 91 91	62 63 60 62 68 71	87 84 88 91 91 93	58 63 53 56 65 65	89 90 90 93 94 95	53 59 55 55 64 61	86 81 88 88 94 93	60 58 52 57 67 69	84 81 87 90 91 94	59 62 54 58 65 66	79 75 86 91 92 98	58 58 56 56 63 70	86 85 87 90 93 94	61 66 58 64 68
Mns	79.5	53.5	78.3	61.8	77.9	55.9	80.1	57.0	80.5	58.4	80.8	60.0	80.4	55.6	79.3	60.7	81.4	58.3	85.2	59.0	81.2	57.8	81.7	59.2	81.6	58.0	83.1	60.

			Missis	sippi.												Louis	siana.									
Date.	Kos		Natel	hez.§§	Vieks	burg.	Ale	xan- a.§§		ton ge.§§	Cov		Lai		La	ke les.§§	Mon	roe.§§		ew eans.	Robel	ine.§§	Schrie	ever.§§	Shrev	eport.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.								
1 2 3 4 5	85 83 83 84 85	50 54 51 54 61	83 76 82 82 77	51 55 59 58 65	80 81 80 80 80	59 61 58 64 61	86 82 82 81 84	55 56 57 56 66	85 85 85 84 85	58 60 62 65 66	86 84 84 84 87	52 54 57 63 65	84 82 82 82 83 84	58 56 63 68 69	85 82 83 82 84	53 52 58 62 61	85 83 80 77 78	53 56 58 67 66	85 81 81 80 85	63 63 65 66 67	85 83 78 80 81	55 51 53 60 60	87 88 86 86 89	55 54 61 65 66	82 80 75 78 80	60 59 63 66 59
6 7, 8 9 10	80 72 83 86 87	61 57 54 56 58	86 75 72 86 87	50 50 55 57 58	79 75 81 84 84	61 60 60 65 62	80 78 82 86 89	51 57 56 57 58	83 81 82 87 88	62 57 57 60 61	85 80 83 87 90	66 58 56 57 58	84 79 88 83 85	60 62 58 59 59	82 75 85 88 91	53 56 56 55 55 58	79 77 81 86 87	57 57 55 59 61	82 73 80 81 85	64 62 62 65 68	75 77 83 88 90	55 54 50 50 55	85 81 82 85 89	65 68 56 53 57	70 75 80 84 88	59 55 56 61 63
11 12 13 14 15	73 82 86 85 84	57 53 57 62 66	85 83 86 87 80	60 57 60 62 65	79 81 85 83 82	62 59 65 64 64	87 86 88 86 85	61 58 59 63 65	85 87 89 88 85	62 63 66 66 68	87 86 87 86 86	60 59 61 63 64	87 84 85 85 85	62 60 61 63 67	90 88 85 86 86	57 55 58 60 64	78 84 89 87 85	60 59 63 62 65	88 81 85 85 85	68 64 68 68 70	87 90 89 88 87	58 56 56 59 60	87 87 90 89 89	61 58 59 60 63	76 86 86 86 86 82	63 60 64 64 60
16 17 18 19 20	75 87 90 90 87	62 61 61 61 62	76 86 89 84 87	67 61 61 63 63	74 85 88 86 84	64 61 66 67 64	82 89 90 92 87	64 62 63 66 65	75 87 90 90 87	69 65 67 69 66	81 83 85 90 88	66 62 63 64 63	79 86 88 88 88	70 62 64 66 66	87 89 92 90 86	59 58 59 62 61	81 88 90 90 87	64 61 64 63 65	84 85 89 83 86	66 68 71 69 72	81 93 92 90 88	61 57 61 64 60	81 91 91 91 91 92	66 59 62 64 61	81 88 89 88 88	60 63 66 68 64
21	71 67 73	65 66 52 52 50	84 67 80 74 79	68 64 56 49 51	83 71 69 72 80	65 61 55 54 57	82 76 76 77 82	66 66 53 52 52	86 72 76 79 82	70 67 57 54 58	87 72 79 83 85	66 68 61 50 51	86 73 75 74 80	69 68 58 54 55	86 74 79 80 85	61 62 54 52 51	86 70 73 76 82	70 65 54 50 53	85 81 75 74 79	72 68 62 57 62	85 81 77 78 84	63 65 50 48 48	88 80 77 77 84	66 67 64 52 55	84 72 73 75 81	67 61 58 54 56
26	84 82 86 90 91 94	56 60 53 56 58 63	78 82 82 83 89 91	56 65 58 56 58 61	82 84 85 85 88 90	61 67 62 64 68 70	87 90 88 90 91 96	57 59 59 59 61 65	85 89 88 89 90 91	63 64 63 64 67 68	85 81 88 90 90	53 61 60 57 61 64	83 88 87 89 88 88	58 63 63 61 62 64	86 92 91 91 92 95	50 58 62 61 58 57	88 86 87 90 92 94	58 65 56 58 66 65	83 88 84 88 86 89	66 67 69 69 70 70	89 90 90 90 91 91	57 60 53 55 62 64	87 90 89 92 91 92	57 60 61 62 61 62	86 84 86 82 88 91	62 67 62 66 68 68
Mns	82.7	57.7	81.9	58.7	81.3	62.3	85.1	59.5	85.0	63. 4	85. 1	60.1	83.8	62,2	86.0	57.5	83.7	60.5	83.1	66. 5	85.5	58. 1	86. 9	60.6	82.1	62.0

^{*,} b, *, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

DISTRICT NO. 8, TEXAS AND RIO GRANDE VALLEY.

B. BUNNEMEYER, District Editor.

GENERAL SUMMARY.

For the first time in the last seven months the mean temperature for the district as a whole was above the normal. Deficiencies occurred, however, in the eastern and southern portions of Texas and over a large area in New Mexico. The monthly extremes of temperature were well within the record, although the days as a rule were warm and the nights cool. Precipitation occurred mostly as local showers and was unevenly distributed. The monthly amounts were considerably less than normal, except over limited areas where there were excessively heavy local rains. The percentage of sunshine was large and the number of rainy days small. The average number of days with 0.01 inch or more of precipitation was only two in Colorado and New Mexico and four in Texas. In the western sections of the district the precipitation nearly all occurred during the last decade, while in Texas there were two general storm periods, from the 3d to the 5th and from the 16th to 22d. There was practically no precipitation in Texas during the last nine days of the month, and in many sections moisture was badly needed at the close of May. The snowfall was light, occurring at the higher mountain stations on the 3d or 4th. The heaviest amount reported was 0.8 inch at Hermit, Colo.

The greatest monthly amount of precipitation reported from the Colorado portion was 1.17 inches at Hermit; from New Mexico, 1.40 inches at Anchor Mine; and from Texas, 6.05 inches at Harper. There was practically no precipitation at 2 stations in Colorado, at 18 in New Mexico, and at 6 in Texas. Amounts of 2.50 inches or more in 24 consecutive hours were reported from 34 stations in Texas, the heaviest being 5.70 inches at Mount Blanco on the 9th.

The prevailing winds were from the southwest in the western portion of the district and from the south in the eastern portion, except along the Texas coast, where they were from the southeast.

TEMPERATURE.

The mean temperature was 2° above normal in Colorado, 0.5° above in New Mexico, and 0.4° above in Texas. There were no well-defined warm or cool periods, but the coolest weather occurred during the first decade and the warmest between the 26th and 31st. Freezing temperatures were reported from portions of Colorado as late as May 22 and from New Mexico as late as May 16. The mean daily range varied from 8° on the Texas coast to 42° in portions of New Mexico.

The highest and lowest temperatures reported were, respectively, in Colorado, 84° at Saguache on the 26th and 10° at Hermit on the 4th; in New Mexico, 105° at Hobbs on the 26th and 12° at Bluewater on the 3d; and in Texas, 105° at Big Spring on the 26th and 36° at East-

land on the 1st. The local monthly means ranged from 40.6° to 54.8° in Colorado, from 48.5° to 72.8° in New Mexico, and from 67.5° to 80.5° in Texas.

PRECIPITATION.

The precipitation over the Rio Grande watershed was decidedly deficient, except locally from Eagle Pass, Tex., to Rio Grande City, Tex., where slight excesses occurred. The deficiency was most marked from San Marcial, N. Mex., to Marfa, Tex. Over this area half of the reporting stations received less than a measurable amount of moisture. The average for the watershed was 0.41 inch, which is about 40 per cent of the normal amount.

The deficiency over the Rio Pecos watershed was still more pronounced, the monthly amounts averaging only 0.26 inch, or one-fourth the normal fall.

Precipitation over the Texas watersheds occurred mostly as local showers, with amounts varying greatly, even in near-by localities. Amounts in excess of the normal were reported from a few southwestern, central, and northern counties, but for the drainage areas as a whole the rainfall was decidedly deficient. The deficiencies ranged from 0.35 inch for the Neches watershed to 2.96 inches for that of the Lavaca. The following are the average monthly amounts in inches and hundredths for the various drainage basins: Nueces, 2.17; San Antonio, 1.79; Guadalupe, 2.26; Lavaca, 1.12; Colorado, 2.65; Brazos, 2.72; Trinity, 3.23; Neches, 2.86; Sabine, 3.18; and coastal plains, 2.23.

RIVER CONDITIONS.

Good rises occurred in the Texas streams and in the Rio Grande at and below Eagle Pass, Tex., after the heavy local rains of the 3d to 4th. The rainfall was unusually heavy in the upper Colorado watershed, and a sharp rise moved down the Colorado from Ballinger to its mouth. At Columbus it overflowed its banks on the 10th and 11th, attaining a stage of 27.3 feet, or 3.3 feet above flood stage, on the latter date. Warnings were issued for this rise and cattle were driven to higher ground. Lowland pastures were damaged to the extent of about \$500 in the vicinity of Columbus, and several farmers in the vicinity of Bay City who were cultivating a few acres of made land in the river bottom suffered a loss of about \$75. No other losses resulted from high water, as the other streams remained within their banks throughout the month.

DESTRUCTIVE LOCAL STORMS.

Tornadoes.—Tornadoes with characteristic pendant, funnel-shaped clouds occurred at 5.30 a. m. May 4 just north of Gainesville, Tex., and at 5.30 p. m. May 21, 3

miles southeast of Wolfe City, Tex. On account of the sparsely settled sections traversed by these storms but little damage resulted.

The Gainesville tornado came from the southwest and went toward the north. It wrecked one residence and one barn, and lifted another house a distance of 20 feet, turning the east front to the north, but no one was killed or injured. It was not practicable to obtain an estimate of the damage.

The Wolfe City tornado came from the northeast and went toward the south. Its path was about 200 feet in width. One residence was completely demolished and another partially wrecked, and four persons were more or less seriously injured. The total damage is estimated at \$3,000. Mr. L. C. Burnecke, Wolfe City, an eye witness, furnished the following:

I watched these clouds myself, and it seemed as if there were three distinct storms. The first cloud had the appearance of a white rope

that finally reached the ground and then began going upward as if it were drawing itself up; after which it went all to pieces. The next cloud formed about 15 minutes later in nearly the same place. It did not last as long as the first, but was much more threatening. A few minutes later another cloud formed a little to the westward. It was closer to the ground and is believed to have done the damage, and the funnel seemed to jump.

Destructive windstorm.—A violent windstorm from the west or northwest occurred at Ballinger, Tex., at 1 a. m. May 3, destroying several shacks in the poorer section of the city and injuring one person. The total damage is estimated at \$300.

Hailstorms.—Damaging hailstorms were reported from Comanche and San Angelo, Tex., on the 18th, and from Tahoka, Tex., on the 19th. At Tahoka the hailstones were reported to have been as large as teacups, and all vegetation in the path of the storm was destroyed. Calves, pigs, and chickens were killed by the hailstones, and one person had his arm badly bruised.

Table 1.—Climatological data for May, 1913. District No. 8, Texas and Rio Grande Valley.

	all others at a		years.	Temp	erature	, in e	degre	es Fal	arenl	heit.	Prec	ipitation	, in in	ches.	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length ofrecord,	Меап.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy da 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind ction.	Observers,
Colorado.	Costilla	7,865	4 6	51.8		79	26	21	5	45	Т.		Т.	T.	0 2	21 11	8	2	w. sw.	Lewis F. Botens.
CumbresGarnett	Costilla	10,015 7,576	20	40.6						477	0.44		0.39				11			Mrs. Ida M. Lively. Charles Speiser.
Hermit La Veta Pass	Costilla	9,843 9,000	3	40.6			23†	10	4	47	1.17 0.29		1. 09 0. 11	0.8	3	18 16	14	2	w. w.	Marion Mason. Clara M. Wright.
Manassa Platoro Saguache	do	7,700	6					186	4	53ь	0.03		0.03	0.5	1 3	7a 24	15a 4	8n	SW.	J. B. Chapman. Walter R. Hook.
Saguache San Luis Wagon Wheel Gap Ex- periment Station.	Saguache Costilla Mineral	7,740 7,794 9,235	21 22 14	50.4	+ 3.2 + 0.6 + 2.3	84 78 69	26 26 30	26 21 20	16† 4 4	49 46 38	T. 0.40 0.34	- 0.70 - 0.74 - 0.60	T. 0. 18 0. 21	T. T. T.	4 4	7 12 10	18 16	20 1 5	s. sw. ne.	Eugene Williams, P. B. Albright. U. S. Weather Bureau.
New Mexico.	Down hour	0.000	100	87.0			00	90		40	0.01	0.00	0.01			01	0	0		Now Montes to G. D.
Agricultural College Alamogordo (near)	Otero	4,338	52 16	67.2	-3.1 + 1.0	95 100	26 26	38 36	3	49 45	0.01	- 0.22 - 0.15	0.01	0	1 2	21 23	8	2	SW.	New Mexico Agr. College. Edward LeBreton.
Alamogordo Alamos Ranch	Sandoval	7,800	3								Т.		T.	0	0	31	0	0		Agent E. P. & S. W. R. R. H. H. Brook,
Albuquerque	Bernalillo	5,000	37								$0.24 \\ 0.26$	- 0.14	0.13 0.26	0	3	26	5	0	w.	Pitt Ross, C. E. Agent E. P. & S. W. R. R
Anchor Mine	Taos	10,600	2 5					20			1.40		0.40	0	6	16	8	7	е.	Charles H. Brigham.
Artesia Aspen Grove Ranch	Rio Arriba	3,350 9,000	4			101	26†	39	5	54	0.93		0.60	0	1	24 14	17	0	50.	Will Benson, C. E. Junius D. Maupin. John W. Bateman.
Bateman's Ranch	Dona Ana	8,900 3,788	2								0. 13 0. 00		0.05	0	0	20	10	1	w.	J. C. Kishaberger.
Bluewater	Valencia	6,732	11	55.0 68.8	- 0.7	85 102	26† 26	12 39	3 4	58 54	0.35 0.01	- 0.09	0.35	0	1	16 21	14 10	1 0	w. sw.	Bluewater Development C William Horner.
Capitan	Lincoln	6,348	4								0.00		0.00	0	0	3	13	15	nw.	Agent E. P. & S. W. R. R
Carlsbad	Lincoln	5,429	18	66.6	+ 0.9	95	26 24	40 39	5 3†		T.	- 0.36	0.09 T.	0	0	26	5	0	se. sw.	U. S. Reclamation Service Agent E. P. & S. W. R. R
Chama	Rio Arriba	5,700 7,851	1 15	63. 0 50. 8	+ 0.7	90 78	29†	31 21	15	50 43	0.06	- 0.98	0.04	0	3	10 26	20 5	0	W.	Irving C. Sweet. Frank C. Johnson.
Clouderoft	Otero	8,650	11 4	51.6	+ 2.1	72	30 25†	30 32	1	30 42	0.00	- 0.98 - 0.88	0,00	0	0	29	25	2	sw.	. Agent E. P. & S. W. R. R. Do.
Coyote	do	5,800	4								0.00		0.00	0	0	24	5	2	sw.	Do.
Coyote	San Miguel	6,889	4								0.09		0.09	0	1	24	6	1	W.	Jaun Vijil. Erb & Westerman.
Duran	Torrance.	6.272	4	64. 4		88	24†	36	3†	36	0. 15		0. 15	0	1	17	13	1	w.	Agent. E. P. & S. W. R. I A. J. Evans.
Escondido	Otero	4,014	15	61.1	. 0.7		004		154	49	0.00	- 0.86	0.00	0	0	30 29	0 2	1 0	80. sw.	Agent E. P. & S. W. R. R Mrs. Ella F. McBride.
Espanola Estancia	Torrance	6, 140	8	58.0	+ 2.7	89 88	26† 19	31 21	15†	61	T.	- 0.53 - 0.60	T.	0	0	16	14	1	W.	George H. Van Stone.
Fort Stanton	Lincoln	6,231 3,960	36		- 2.5	85 94	26 26†	28 38	16	54	0.08	- 0.60	0.08	0.	1	20 16	11 15	0	S. SW.	U. S. Sanitarium. Peter Yocky.
GallinasGallinas Planting Sta	Lincoln	6,635	6	53.7		80	24†	28	4	42	0.45 0.73		0.25 0.63	T.	2	20 18	6 12	5	w. sw.	Peter Yocky. Agent E. P. & S. W. R. R U. S. Forest Service.
Glorieta Ranch	Socorro	6,300	3								0.30		0.17	0	3	26	3	2	8.	Charles M. Crossman.
Harvey's Upper Ranch Hobbs	Eddy		4	50.7 72.81		105 e	24 26	26 45s		35 50≈	0.53 0.10		0.25 0.07	0	3	17 21	14	0	SW.	R. B. Schoonmaker. E. H. Byers.
Hondo Reservoir Jemez Springs	Chaves	3,904 6,100	3	58.1		97	26 30	36 33	5 4	48	0.34		0.18	0	3	24 20	7 8	0 3	S. SW.	U. S. Reclamation Service Mrs. L. L. Shields.
Knowles (near)	Eddy	4,300	3 8	70.4		100	26 26†	38 29	5 15	47 58	0.05	+ 0.26	0.03	0	2 2	20	10	1	90. W.	J. W. Mosley. Guss Weiss.
Laguna	Guadalupe	4,500	8	01.0			201		10											P. A. Turnbull.
Lake Valley Lakewood (near)	Sierra Eddy	5, 412 3, 170	8	70.6		98	16†	38	5	51	0.43		0.33 0.05	0	3	27 22	8	0	SW. Se.	William P. Keil. Mrs. J. K. Boyd.
anarkas Vegas	Dona Ana	4, 156 6, 385	14 26	58.0	+ 0.8	85	24	32	4†	44	0, 10 0, 44	+ 0.06	0.10	0	1 3	22 15	8 15	1	e. sw.	Agent So. Pac. R. R. New Mexico Normal Univ
Los Lunas (near)	Valencia	4,900 6,557	24	62.9	- 0.7	94	26† 31	34 34	5		0.08	- 0.66 - 0.11	0.08	T.	1	18 18	13 12	0		Richard Pohl. William Pender.
Magdalena Mescalero	Otero	6,627	2			82	26†	24	19		0.11	- 0.11	0.06	0	2	20	6	5	w. sw.	Rev. R. H. Harper.
Mineral Hill	San Miguel Otero	7,050 4,436	8			94		39	4		0.25		0.25	0	1	26	29	1	SW.	W. M. Nelson. Agent E. P. & S. W. R. R
Mountainair Mountain Park	Torrance	6, 547	11		+ 2.4			27	15	51	0.02	- 0.83	0.02	0	1	20 25	9	0	SW.	Miss Julia Hill. Charles E. Beasley.
Newman	do	3,989	4								0.00		0.00	0	0	29 15	1	1		Agent E. P. & S. W. R. R H. E. Kellar.
Nogal (near)	Dona Ana	8,000 4,114	4								0.00		0.00	T.	0	29	11 2	5	w. e.	Agent E. P. & S. W. R. R
Orogrande	Otero Lincoln	4, 171 5, 016	4								T. 0.07		T. 0.07	0	0	24	7	0		Do. Eugene F. Jones.
Otis Pastura	Eddy Guadalupe	3, 100 5, 285	4								0.16 0.24		0.10	0	3	24	6	7	se. e.	A. M. Hove. Agent E. P. & S. W. R. R
Placitas (near)	Bernalillo	8,000 4,300	2 2																	George C. Ellis.
Plainview (near) Red River Canyon	Chaves	8,956	6				22†	30	19†	45	0.40		0.20	T.	3	17	14	0	θ.	L. P. Adair. Mrs. L. R. Penn.
Richland	Chaves	4,030	19	66.6	- 1.3	96	26	33	4	52	0.00	- 0.20	0.00	0	0	10	19	2	w.	. K. H. Embree. Charles H. Raitt.
Rio Grande Dam Rio Grande Industrial	Sierra Bernalillo	4, 265 5, 000	23	66.4	+ 0.3	94	24† 24†	33	16	49	0.11	- 0.17	0.08	0	0 2 1	22 17	8	1 2	W.	U. S. Reclamation Service Rev. A. C. Heyman.
School.	Socorro	6,910		***				32	1	37	0. 53		0.40	0	4	22	5	4	w.	Mrs. J. J. McInness.
Rosedale	Chaves	3,578	19	68.6	- 0.8	80 97	25† 26	38 34	3 5 3	49	0.03	- 1.14	0.02	0	2	15	16	0	S.	U. S. Weather Bureau.
San Marcial	SocorroValencia	4, 439 6, 509	16 16	68.2	-0.8 + 1.2 + 3.1	96 95	31 26	27	3	49 56	0.36	- 0.28 - 0.15	0.00	0	0 2	26 26	3	2 2	w. sw.	Agent A. T. & S. F. R. R. Dr. Chas. M. Grover.
Santa Fe	Santa Fedo	7,013 8,000	40	58.6	+ 1.9	79	24	36	4	33	0. 17 T.	- 0.94	0.12 T.	T.	3	16 18	15 13	0	sw.	Section Center. Mrs. E. M. Gregory.
Santa Rosa	Guadalupe	4,624	12	67.0		94 81	24 26†	39 19	5 4†	45 56	0.88	+ 0.03	0.32	T.	6 2	18 10	9	4	8. W.	H. V. B. Smith. James Curry.
Senorito (near)	Sandoval	7,500 4,600	21	63.0	- 3.0	100	31	33	16	50	0.03	- 0.34	0.03	0	1	25	2	4	88.	J. J. Leeson.
South Fork	Taos Santa Fe	8, 405 6, 317	4	57.8		87	30	26	3†	52	0.09		0.16	0	2	14 11	11 2	18	g. gw,	Frank Hamm, jr. D. C. Kinsell.
lajique (near)	Torrance	9,800 6,983	3	49.8	+ 1.4	69	31 29	28 30	3+	26	0.46	- 0.77	0.34 0.13	0	2 4	21 19	8 12	2	w.	A. Rea. Alexander Gusdorf.
Taos Canyon	do	8,959	4								0.51		0.21	0	5	19	9	3		L. Martinez, jr. Agent E. P. & S. W. R. R
Pecolote	Lincoln	6,539 4,559	4			82	19†	36	4	32	0.00		0.10	0	5 1 0	21 22	10	0	W. SW.	Do.
l'ijeras Canyon l'orrance.	Bernalillo Torrance	6, 214 6, 433	3								0.06 T.		0.04 T.	0	0	23 28 11	8	0	sw.	U. S. Forest Service. Agent E. P. & S. W. R. R
	Taos	8,076	10	53.6		80	26	24	16	47		- 0.80	0.15	0	5 2		10	10	sw.	U. S. Forest Service.

TABLE 1.—Climatological data for May, 1913. District No. 8—Continued.

			years.	Tem	peratur	e, in	degre	es Fa	hrenl	heit.	Prec	eipitation	, in in	ches.	lays,		Sky		direc	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy of 0.01 inch or mor	Number of clear days.	Number of part-	Number of cloudy days.	Prevailing wind d	Observers.
New Mexico-Contd.										1										Section 1995
TularosaVaughn	Otero Guadalupe	4, 436 5, 952	3 4								т.		т.		0	19	8	4	sw.	Irby L. Fairless.
Virsylvia Willard	Taos	7,500 6,086	3	63.5		81 102	26 25 24	28 29 24	14 15†	31 64	0.56		0.22 0.07	0	6	19 18 19	13	0	sw.	Agent E. P. & S. W. R. R. Dr. I. N. Woodman. Dr. Volney S. Cheyney.
Winsors Texas.	San Miguel	8,200	17	49.0	+ 2.8	75	24	24	14	40	0.23	- 1.35	0.12	T.	4	11	20	0	sw.	James F. Matty.
Abilene	TaylorShackelford	1,738	28 19	73.7	+ 1.8	98	26	51	7	36	4.73	+ 1.01	3.63	0	8	16	8	7	S.	U. S. Weather Bureau.
Albany	Jim Wells	209	2	71.0	- 1.5	100 99	27† 31	42 54	18	36 55 35	4. 41 0. 34	+ 0.92	3.30	0	5 3	26 16	6	4 9	80. 88.	N. L. Bartholomew. R. M. Boerum.
Alp i ne	Brewster	4,482	3 15			95	31	54	9†	38	0.30 4.16	+ 0.37	0.30 2.10	0	1 4	24 12	12	7 7	8.	H. B. Cowles. Alvin Japanese Nursery.
Antelope	Jack	23	2								3.57 2.57		2.05 2.15	0	5 5 2	16	ii	4		Lone Star Canal Co. Paul Rudolph.
Aspermont	Stonewall	593	57	71.0	- 3.5 + 1.7	92	27†	47	26	41	1.57 2.98	- 1.21	1.44	0	6	16 27 18	1	3 9	80. 80.	Bryant Link Co.
Ballinger	Runnels	2,573	17	74.2	+ 1.7	99 101	26 26† 27	51 41	6	41 45	4.01	+ 0.57	3.53 0.00	0	0	13 20	5 9	13 2	8.	A. Deussen. E. M. Eubank. F. P. Ingerson.
Bay City Beaumont	Matagorda Jefferson	53 29	12	73.5 75.6	+ 0.4	87 92	30†	41 54 57 52	2 25	45 26 31	1.70 4.31	+ 1.10	1.30 2.43	0	4	19 20	0	10 11	S. 80.	E. C. Quereau. John Bender.
Beeville Big Spring	Bee Howard Blanco	225 2,396	17 15	76.0 75.6	- 1.1 + 2.7 + 1.6	98 105	30† 27† 26 30	47	7 5†	40	0.35	- 3.17 - 2.18	0.31	0	5	15 18	10	15	8e. 8.	Geo. E. Faupel. B. Reagan.
BlancoBoerne	Kendall	1,350 1,412	17 21 12	72.7 69.9	+ 1.6	94	30 18†	48 41	8 21	36 45	3.82	+ 1.03	1.18	0	7 5	19b	8b	2b 5 8	8.	R. C. Crist. F. W. Schweppe.
Booth	Montague MeCulloch	1,113	18 18 12	73.8	+ 2.7	99	28	51	7	33	1.65	- 3.28 - 1.79	0.68	0	7 5	23 18	0	8 12	e. s.	T. R. Booth. Craig Anderson.
Brazoria	Brazoria	25	24	72.8	- 1.8	91	27	54	1†	34	1.31	- 1.85	0.75		5	26		0	S.	Prof. J. O. Wallace. Mrs. M. A. Stevens.
Brazos Brenham	Palo Pinto Washington	801 350	28	73.8	- 1.4	91	31	58	11	25	5.25 2.80	- 0.95	3.10	0	6 7	18 16	7	6 14	8. 8.	Robt. E. Boyett. Mrs. B. F. Sloan.
Bridgeport Brighton	Wise Nueces	754 12	4 20 49	75.5	- 0.8	90	31	57	8	29	3.72 2.32	- 0,60	2.10 1.85	0	3 2	17 30	10	4	8. 88.	Claude Strange. G. H. Ritter.
Brownsville Brownwood	Cameron Brown	38 1,342	49 21	74.7 73.8	-3.9 + 1.2	89 101	31 26	55 50	8 71	32 48	1.12 2.44	- 1.03 - 1.60	0.80	0	6	20		3	8. 8.	U. S. Weather Bureau, Mrs. Pearl Smith,
Buena Vista	Pecos		5								0.95		0.51	Ö	3 4	30	8	O		W. H. Denis. J. E. Watts.
Carmona Carrizo Springs	Polk Dimmit	330	5	71.8 79.4		94 98	31 17†	49 50	24 24	35 43	3.03 0.45		1.10 0.35	0	6	20%	5h	4b	S. Se.	M. S. Spitler. M. E. Cook.
Claytonville	Fisher Bosque	2,100 671	18	73.2	+ 2.2	100	26	48	6	44	2.58 4.25	- 0.63	1.19	0	5 4	22 22 14	5 13	4	80.	Wm. Lanius.
Coleman	Coleman	1,710	19	74.6 70.4h		102 86	28 19	49 50	8	41 32h	5. 10	- 1.15	3.75	0	4 0	18 7h	10	3	s. s. se.	R. M. Jones. J. E. Stevens.
College Station Colorado	Brazos	308 2,066	23 19	74.4	$^{+\ 0.8}_{+\ 2.0}$	95 100	28† 26	55 50	8†	34 43	2.44 1.30	- 2.13 - 1.10	1.00	0	6	11	6	14	S.	H. A. Clapp. Prof. G. S. Fraps.
Columbus	Colorado Comanche	206 1,358	9 7	75.0		99	17	521		39	1.46 4.25	- 1.10	0.61	0	5 4	14	5	12	S. Se.	R. M. Webb. Mrs. Sophie Bridge.
Comanche Corpus Christi Corsicana	Nueces. Navarro	20 445	26 24	74.4	- 2.1 - 0.8	82 93	22 28	63	8	15		- 2.02 - 2.40	1.95	0	5 3	12 13	15 13	5	se. se.	R. V. Nabers. U. S. Weather Bureau.
CotullaCrockett.	La Salle	425 350	6 9	73.7	- 0.0				7†		2.30	- 2.40	1.63 1.60	0	3	20	1	10	S.	D. H. Winn, Holland Agricultural Co.
CueroDallas	De Witt Dallas		23 24	73.2 72.8	- 3.9 0.0	95 97	28 31	52	24†	37	4.23 0.31	- 3.28	1.97 0.22	0	6 3 5	22 17	3 5	6 9	S. S.	A. M. Rencher. H. R. Frobese.
Danevang Del Rio	Wharton Valverde		17	75.0 77.2	-1.2 + 0.3	97 98	28 31	55 52 50 51 55 51	23	39 39 36	1.85	- 2.49 - 3.08	1.24 0.10	0	2	20 29	0	10 2	8. 80.	G. A. Eisenlohr. H. P. Hermansen.
Devine. Dialville	Medina	653	7 3	79.2		97 99	26		7 16	43	1.75	- 2.32	$0.39 \\ 1.25$	0	5 3	22 23	8	1 4	Se. Se.	U. S. Weather Bureau. M. A. Keller.
Dilley Dublin	Frio. Erath.	569	10		+ 0.5	90	28	54	24	28	0.00	- 1.94	0.00	0	5	19*			8.	J. M. B. McKnight. John W. Miller.
Duval Eagle Pass	Travis	1,466 820	17 24	73.0	+1.3 -0.8 $+0.8$	92	27	50 50	11	50 37	3.41 2.98	$ \begin{array}{r} -0.62 \\ -1.09 \\ +0.32 \end{array} $	1.63 1.26	0	5 4 3	19 21 16	3	7 7	s. se.	Jno. O. Shafer. J. C. Edgar.
Eastland	Eastland	800 1,420	36 6	72.0	+ 0.8	98	26† 28†	58 36	23	38 50	3.05	+ 0.32	$2.50 \\ 2.75$	0 0	3	16 20	15	6	80. 80.	Charles Tarver. James A. Beard.
El Paso Encinal	Jackson El Paso	3,762	34	71.8	- 0.3	95	26	47	4	38	1.67 T.	- 0.35	1.23 T.	0	0	22	8	1	w.	E. L. Faires. U. S. Weather Bureau.
Falfurrias	La Salle	558	10 5	76.7		99	31	53	8 7	40	1.15		0.59	0	3	23	6	2	80.	Walter Pettit. W. A. Gardner.
Flint. Fort Clark.	Smith	465 483	5 3	74.1		97 94	27 31	54 52	24	37 33	1.39 2.16		0.80	0	3 7 7 2	23 21 21	3	8 7 2	s. sw.	Fred W. Laux. F. C. C. Carter.
Fort Davis. Fort McIntosh	Kinney	1,050 5,000	42 34	75.6	- 0.9	96	27	60	9†	34	2.60 0.41	- 1.04 - 0.63	1.50 0.37	0	2 2	17	12	2	se.	Post Hospital. C. H. Bird.
Fort Stockton	Webb	3,050	45 16	75.4	-0.7 + 1.9	103 103	17 26	57 46	17	46	2.16 0.73	- 0.22 - 0.70	0.83	0	3	18	9 27	0	s. se.	Post Hospital.
Fort Worth	Tarrant	670 1,742	18 24	71.2	$+0.4 \\ -0.9$	97 92	28 27†	52 51	7 8	33 35	2.74 2.96	- 1.41 - 0.69	1.87 0.87	0	6 5	15 14	11 14	5 3	S. S.	H. H. Butz. U. S. Weather Bureau. Arthur Striegler.
Jail	Cooke	738	23	73.4	- 2.7	102 96	13 26†	48 50	5 7 8 8 7 5	48 35	0.00 4.29	- 1.15	0.00	0	0 7	24	2	5	8.	J. D. Brown.
GalvestonGarden City	Galveston	69	42		- 1.4	83	31	60	5	16		+ 0.64	2.57 1.19	0	5 3	22 24	5	4 3	S. Se.	U. S. Weather Bureau.
Jatesville. Jeorgetown	Coryell	795 750	18	72.6 72.6	- 0.8	93 97	30 27	53 50	8 24	34 38	3, 40 3, 92	- 0.08	1.40 1.42	0	4 7	25 21	3 5	3 5	8.	John Ryan.
Jonad	Gonzales	164 299	1 8					*****			0.25 4.61		0.20	0	6	12	3	16	S.	U. S. Weather Bureau. C. W. Cunningham. John Ryan. Prof. R. F. Young. W. B. Campbell. J. M. Johnson.
Foree	Knox McLennan	444	1					*****			3.18		2, 22 1, 34	0	5 2	15 22	15	1 2	3e. S.	R. L. Gaines. John Gorham.
raham	Young Ward	1,040	14	74.4	- 1.5	100	15†	47	19	37	5.03	+ 0.81	2.57	0	4	19	10 25	2 0	8.	C. W. Johnson. W. A. White.
rand Saline	Van Zandt Tarrant	399 670	3 23	74.3	+ 1.8	98	28	51		35	2.49	- 1.33	0.82	0	4 6	19 16	7 8	5 7	8.	Jas. Kirk.
Hallettsville	HuntLavaca	550 235	13 21	73.6	+ 2.5 - 0.9	98 96 95	26† 31	51 56	7 7 24	35 33	3.25 0.57	- 1.33 - 2.17 - 3.51	1.20	0	3	19 20	0	12	S. S.	W. J. Crowley. Mrs. L. A. Regan.
Jarlingen	Jones	1,685	2 2			95	18	57	9†		2.53 2.14		2.00	0	2.		5	6	8.	Mrs. L. A. Regan, Dr. J. E. Lay, W. S. Carruthers,
Hagrall	Gillespie Haskell	1,553	18		+ 0.9	98					6.05 2.94		1.93 2.00	0	3	19	11	1	se.	D. L. Barker.
Tempstead	Duval Waller	254	6 9					45	16	41	2.86	- 0.20	2,50 1.40	0	3	21	6	4	8.	P. D. Sanders. Henry Edds.
deuderson.	Rusk McLennan	500 664	18				••••				3.50 2.14 1.28		1.46 0.82	0	5	15 19	5		S.	J. H. Hancock. M. Kangerga. I. H. Earle.

TABLE 1 .- Climatological data for May, 1913. District No. 8-Continued.

			years.	Temp	perature	e, in	degr	ees Fal	hrenl	heit.	Pre	ipitation	, in in	ches.	days,		Sky		direc-	,
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day	Number of clear days.	Number of part- ly cloudy days.	Number of	Prevailing wind	Observers.
Texas-Continued.													0.00		3	22	0	9	s.	John A. Eakins.
Hico	. Hill	628	10	71.4	0.1	96 95	26	47 55	6 7	38 33	3.84 2.39 4.56	- 3.12 - 0.06	2.83 1.38 2,25	0 0	3 5	24	5	2	se.	W. G. Escott. H. E. Haass.
Hondo Houston	Harris	. 138	23	74.6	$ \begin{array}{r} -0.1 \\ -1.4 \\ -2.0 \end{array} $		17 31	56	4	26	3.56	- 1.51	1.89	0	6 4	17 23	8	6 8	se. se.	U. S. Weather Bureau. W. Y. Barr.
Huntsville	. Walker	400	29	72.4	- 2.0	92	28	54	24	31	2.90 0.70	- 2.03	1.38 0.70	0	1	26	0	5	S.	Wichita Valley Ry. Co.
Jewett	Leon	. 496	12	73.9 69.6		98	28† 17	54 45	9 8t	38	$\frac{2.55}{2.85}$	- 0.54	1.75	0	3 4	21	7	3	8.	Earle Adkisson. Judge John S. Durst.
Kaufman	Kaufman	. 448	14	74.7	$^{+\ 1.1}_{-\ 0.8}$	95	26† 19	53 47	24 8	32 37	1.42 5.15	-0.54 -3.32 $+1.65$	$0.92 \\ 2.04$	0	5	25 16	12	3	se. s.	B. J. Hubbard. Robert E. Horne.
Kerrville Knickerbocker	Tom Green	2,050	9	74.2			17†		5	45	3.96		1.45	0	3 7	18	12	1 9	se.	Jos. Tweedy. T. A. Johnson.
Kopperl Lagrange	Bosque	576 276	16								1.40	- 3.60	0.60	0		14	12	5	80.	August Hermes,
Lamesa	Dawson	. 2,500	21	60 0	- 3.0	96	27	45	17	47	0.30 3.08	- 0.58	0.30 1.56	0	5	20	2	9	S.	S. D. Austin. Mrs. K. L. Webber.
Lampasas La Parra	Willacy	. 38	10								3.20	+ 0.90	2.90 0.85	0	2 4					Jno. G. Kenedy. Mrs. A. H. Jackson.
Laredo Laureles Ranch	Nueces	. 20	13																	Matt Cody.
Liberty	. Liberty	. 38	9 22	72.8 74.0		93	31 17†	52 51	1 4	31 34	3.43 3.39	+ 0.84	1.50 1.41	0	7 3	19 22	6	3	8.	Mrs. Fannie Sneed. E. W. Torrence.
Llano Grande	. Hidalgo	. 86	5 8			97	31	52	10	40	2.87 2.00		1.65 1.30	0	3	21 12	9	1 13	se. s.	M. D. Wardlow. Geo. W. Ellis.
Long Lake Longview	Gregg	. 336	27	74.8	+ 1.0	97	31	54	24	32	2.75	- 1.66	1.23	0	3 7 3	21 22	0 8	10	se.	C. A. Propst. A. L. Paschall.
LubbockLufkin	. Lubbock		6	72.6		93	31	52	22	32	0.24 1.03		0.15	0	3 4	23	1 3	7	8.	T. A. King.
Luling	Caldwell	. 418	24		+ 0.3	96	27†	57	81	35	1.60 2.50	- 1.72	1.08 2.10	- 0	3	12 26*	3 3a	16	8.	John Carter. W. H. Whitley.
McGregor	Collin	. 612	11	72.0			31	49	71	37	4.02	- 4.31	2.34	0	6 2	17	10	11	8e. 8.	H. Killingsworth. Rev. A. P. Willis.
Marathon	. Brewster	4,043	5	67.5		89	25†	44	5	36	0.80		0.75	0	7	20	ó	11	8.	B. E. Cochran.
Marfa	Presidio		. 5	70 0		02	21	50	24	31	$0.00 \\ 2,29$	- 2.60	0.00	0	7	5	19	7	8.	W. L. Jones. Lee Scott.
Marshall	Matagorda	. 12	11 3	72.2			31				0.75	- 2,00	0.41	0	3	27	3	1	S.	W. E. McNabb.
Mexia	Limestone	. 537	9	73.5		102	28 26	54	24	31 47	1.33	- 2.93	0.48 0.25	0	6 2	12 18	13	6 5	sw.	Miss Josephine Newman. J. Harvey Clark. Myron J. Conway.
Midland Mission	Hidalgo	. 140	3								4.21		2.48	0	4	21	5	5	8.	Myron J. Conway. A. R. Shearer.
Mont Belvieu Montell			3								2.15		1.21	0	3	16	5 9	10	86.	A. G. Beecroft.
Mount Blanco	Crosby	2,750	24 14	70.6	+ 2.4	98	25 31	43 53	10	42 29	5.99	+ 3.78	5.70 1.70	0	3 6	17 18	1	12	8.	Geo. W. Smith. Miss Mary Hofmann.
Nacogdoches New Braunfels	Comal	. 720	24	74.0	- 0.4	96	30	56	8	32 27	3.11 2.83	-0.10 -2.06	1.47	0	6	14 22	12	5 2	8.	J. Giesecke. U. S. Weather Bureau.
Palestine	Anderson		31 24	72.1	- 0.4	89	28	54	24	24	3.48	- 0.51	1.14	0	4					E. H. Snyder.
Pearsall	Frio	629	3 7	73.6		95	31	53	24	37	0.79		0.61	0	3	16	0	15	80.	R. B. Pointer.
Pierce Plainview	Hale	. 3,370		70.1	+ 1.8		25	44	24 7	46	0.50	- 1.98	0.38	0	2 2	17	13	1	S.	J. F. Sander. Griffing Bros. Co.
Port Arthur			12	75.8	- 0.1	92	271	57	7	28	4.35 T.	- 4.53	3.40 T.	0	0	25	6	0	8.	J. H. Bickford.
Post	Garza	. 2,700	3 2								0.18 3.20		0.16 2.80	0	2 2	19	8	4	S.	W. T. Mann. S. M. Davis.
Putnam Raymondville	Callahan		. 2	76.4		96	17	55	81		3.93		2.61	0	3 2	16 18	15	0	se. se.	C. H. Pease. J. S. Lehman.
Ricardo Rio Grande	Nueces	. 57	3;	75.8			171	53	13	36	1.15 2.50	+ 0.13	0.80 1.20	0	3	19	4	8	se.	D. N. Garza.
Riverside	Walker	169	9								4.38		1.85	0	5 5	24	9	13	S. S.	Mrs. C. W. Higdon. Mack Dunkin.
Rockland	Tyler	. 12	12	75.8	+ 0.3	86	20		7	14	0.30	- 3.03	0.30	0	1	20	6	5 2	se.	Mrs. G. Grewe. W. F. M. Ross.
Rossville	Atascosa		18	73.6		94	16	56	15	34	4.31 0.16	- 5.33	2.36 0.16	0	1					Reiffert & Frobese.
Sabinal	Uvalde	964	9	76.1		. 97	17	56	7	36	3.50		2.76 0.40	0	6	12	16 5 6	7	Se. S.	H. W. Reily. L. M. Crockett.
SaladoSan Angelo	Tom Green	. 1,847	22	76.0	+ 2.3	101	261	48	12	43	5.67	+ 2.51	3.20	0	5	20	6 9	5 2		Sam Crowther. U. S. Weather Bureau.
San Antonio San Augustine	Bexar			75.6	+ 0.8	. 93	27 31	56 50	241		2.88 2.30	- 0.08	0.73	0	8	19	6	6		. F. A. Wilson.
San Juanito	. Hidalgo		. 4	79.1	- 0.8	. 100	17 27	58 54	61	36	3.64	- 2.11	2.35 0.72	0	5	17	3 0	21 14	Se.	J. B. McAllen. Miss L. C. Ford.
San Marcos San Saba	San Saba	. 1,712	12	73.4	+ 0.8		171		7	39	2.21	- 1.60	0.94	0	5	23	7	7 13	S.	Jas. Burns. L. L. Shield.
Santa Anna Santa Gertrudes	Coleman		. 13								4.00		2.90	0						J. B. Wright, jr.
Sealy	Austin	. 201	2					50	7		1.84		0.82	0	5	17	6	8	S.	O. H. Albert. S. C. Lee.
SeymourSnyderSomerville	Baylor		. 2	71.5		101	26	47	5	46	1.52		0.57	0				5 4	se. s.	J. Allen Weaver. Ed. Herbst.
Somerville	Burleson		9	74.6		. 97	27	53	24	35	2.40		1.05							. C. R. Myers.
Spur	Dickens	2,300		73.2	1	101	26 26	49 48	5		0.44		0.35	0		24		1	8.	J. D. Reagan. W. I. Pratt.
Stamford Sugarland	Fort Bend	. 79	12	70.6 74.2	- 1.0		27	57	1		1.57	- 2.88	0.83	0	5	22		3	se.	Paul C. Rudat. W. W. Craft.
Sutherland Springs Tahoka	Wilson	424	3	72.5		100	25	46	5	41	1.70		1,10	0	4	4	26	1	80.	H. C. Crie.
Taylor	Williamson	583		73.0	- 1.3	95	27	54	7	33	4.94 1.95	$+0.93 \\ -2.38$	2.82 0.63				11	6 4	8.	U. S. Weather Bureau. W. Goodrich Jones.
Temple Theodore (near)	Bell	630	. 3	74.1	+ 1.2						0.20		0.20	0	1					W. B. Oates. J. K. Ball.
Thurber	Erath		. 3								5.24		2.83	0	1					W. H. Gisler.
Tivoli Uvalde	Uvalde		. 10	77.1	1		1	54	8	43	2.30	- 0.62	1.95			23	b 3h	3,	80.	J. G. McBride. Valentine Development (
Valentine Valley Junction	Jeff Davis Robertson	289	13								2.65	- 1.94	2.00					4	8.	Frank Fitzpatrick.
Victoria	Victoria	187	14	79.4		98 95	27 28	55 55	24	41 29	0.11	- 3.90 - 3.80	0.11			17	6	10 8	8.	C. C. Zirjacks. E. H. Hall.
Waco Waxahachie	Ellis	556	16	73.9	+ 0.8	100	28	49	8	41	3.63	- 1.78	2.93	0	3	13	11	7	s. n.	C. D. Longserre. Miss J. Stickfort.
Weatherford	Parker	864 524			+ 1.2		28 31	51 52	23	33 32	4.96 2.96		1.10	0	3	15	14	2	8.	W. W. Gibbard.
Winters						1					4.39		. 3.75	0	8					. Ed. P. Eason.

*, b, *, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.
**Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—Daily precipitation for May, 1913. District No. 8, Texas and Rio Grande Valley.

Stations.	Watershed.	-	1	1	1	1	1	_	1	U/Ale	1	1	1			Day	OI II	iont	п.													
	-	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Colorado.		-																				12.7	- 10									
nca	Rio Grande.																												m	193	1	1
mbres	do			T.																T.							T.	.39	T.	.00	3	
mett	do			T.					T.											1.00							T.					
Veta Pass	do			T.															70							.08		.08	.10	T.	iii	T.
toro	do								.0			1																.03		T.	T.	
uache Luis	do									T.								T.			T.								T.			
gon Wheel Gan	do			T.				T.	.0	7				.02	T		T		T.		4 .				T.		T.	.00			. 01	
xperiment Sta-																				.03	-		18	*	1.		1.	. 21	T.			
New Mexico.																							30					ME			1	
icultural College	Rio Grande.																											.01				
mogordo (near) . mogordo	do																									. 03						. 02
nos Ranch querque	do																							••••	••••	••••		****				T.
nquerque	do							T.																. 13	T.			. 08				. 03
HOI MILITO																								.20	.30	••••	. 20	.20				
sia en Grove Ranch.	Pecos Rio Grande.							T.	.08						• • • • •	• • • • •										T.		. 08	T.			. 60
man's Ranch	do			. 0	5				T.																			. 05	.08			
nowater	do				-			1																								
	Pecos								. 04		1							Contract of						Т.		****		. 35				****
tanbad	do			T.	.09			1		1		1																				
izozo llos (near)	Rio Grande.		70																									T.			T.	
na	do						. 04	T.					T.					.01										T. T.		T.	T.	.01
deroft	Pecos																										****	.21	T.		••••	
te	Rio Grande.					1																										
liyo	do																						••••	••••			• • • •	- 00	• • • •			
nonstration rm.	Pecos								• • • •																							
n	do								. 15																			. 50	33		m.	T.
ndido	Rio Grande.	****							• • • •	••••			•																			
nola	do																															.02
stanton	Pecos	• • • •		T.			1																	T.			T.	T.				T.
Sumner	do								T.							• • • • •		••••					T.	T.			T.	T.	T.		T.	T.
nas Planting	do				T.		T.		.04									855						. 25							1.	. 20
tion.				1	1		*.		. 04	1.	****		• • • •	••••				• • • • •	T.	• • • • •				. 05		T.	. 01	T.	T.	,		. 63
eta Ranch ey's Upper	Rio Grande. Pecos							T.	T.		••••													. 10		.17		. 03				
nch.									*																	.16	.08	. 04				. 25
	do				. 03				• • • •			t											T.									.07
z Springs	Kio Grande.																		. 05					.01			.11		. 18			T.
na	Pecos Rio Grande.																	- 1		- 1							. 03					.02
valley	Pecos																				****				****			. 30			• • • • •	
wood	Rio Grande Pecos	- 4																							. 06			. 04				
Accessor	Rio Grande.								1																				.10		. 05	
unas (near)	Rio Grande																						. 04				. 20				T.	. 20
alena	Rio Grande. do. do.			T.			T.																	T.	T.	T.		.08				
al Hill	Pecos				****		T.				1		1	1		- 1		- 1							1							. 05
or o'y	ruo Grande.				0/3/03	- 734																								• • • • •		. 25
	do							. 02	T.															T.			T.	T.				T.
nan	dodoPecosRio Grande						700											***								. 09		T.				
(Hoar)	Rio Grande.						T.	. 03			• • • • •														. 02	T.		. 04				. 69
																									T.			••••		• • • • •		••••
***********	Pecosdo	***		T.	. 06				10	T																			.07			
as (near)	do Rio Grande.																							. 15		Т.		T.	••••		T.	
view (near)	Pecos				****																											
iver Canyon	Pecos Rio Grande Pecos.			T.																					T.	. 10		• • • • •	.10	••••	. 20	
n	Rio Grande																								-	. 10					. 20	
rande Dam	do																							.03	T	T.		.08	• • • • •	••••		
School.		***																												. 03		
ale	do			. 10																			.	T.	. 03	T		. 28	.12			
	Pecos Rio Grande.		****		T.				. 01										T.					T.		. 02		T.	m			
Fe.	do																							T.		T.		.18	. 18	••••		••••
re Canyon	do			- 1											T. .									T.		T.	T.	. 04			T. T.	.12
to (near)	Pecos			m				. 14	. 06	. 01									28					T			T.	T.		T.	T.	T.
0	do dianue.			T.					T.															T		T.	T.	.11				. 08
V	do								. 10																		. 03				. 10	
ie (near)	do							12																.06							. 10	. 16
Canvon	do																***											. 34			00	T.
te	do						L	T.	. 21 .									T.						.02		T.	.14				.06 T.	. 13 . 12 T.
									- 1																							

Table 2.—Daily precipitation for May, 1913. District No. 8—Continued.

Stations.	Watershed.												1				f mor			-	-	- 1		1		1	1	1	1			
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
w Mexico-Con.																																
Tance	Pecos																							T.								
s Piedras	Rio Grande.						. 02																			. 01					****	****
arosa	do																															. 18
ighn	Penne							TP.	T															T.								
sylviallard	Rio Grande.	••••							. 05	****									. 01					. 07						. 15	****	****
DSOTS	Pecos			T.																								. 05	. 01			. 05
Тетав.																																
ilene	Brazos			2.80	.83											.03		. 01	. 63	. 35	. 05	. 03										
any	Coast		T.	.16	3.30		90									. 05			.15		.75		12			****		****				
ine	Peane			30																												
in	Coast					T.											2.00						2.10									
huac	Trinity			9 15	.07	.30						****			13	17	2.05		.04	T	.17										****	****
elopeermont	Brazos		. 13	1.44											. 10																	
tin	Colorado			. 56	. 05											. 65	. 47				1.16		.09				,					
linger	Pecos				3.53		****										. 25				.15		.08			••••				****	****	****
stow	Colorado																1.30					. 05	. 15	. 20								
umont	Neches					· · · ·	****										2.43					.81	. 93									
ville	Colorado			07	06		.31		T		97		04			****	.04	****			.04		1.		****	****						T.
Spring	Guadalupe			1.12	.41												1.18			. 18	.80	.08	.05									
rne	San Antonio	T.	T.	1.36	.06											.88					1.53	.02										
th []	Brazos											****			.06	19	.27	. 07		T.	.16	.08	. 08	. 05		****		****		****		****
dy	Colorado																															
zoria	Brazos			T.	.01		T.										. 52			1 00	.01		.75		• • • •							
zos [[nham	do				3.10		.42				****		****				1.43			1.02	.34	.34	. 45	т.								****
igeport	Trinity				2.10	T.										T.	1.52				.10											
hton	Coast																1.85					. 47										
wnsville	Rio Grande.				1 05		.80	. 02				****	****				т.		T.	.18	.06	.20	T.	T	****			****	****	****	.03	
na Vista	Pecos		.08	. 25	1.00								T.	.11					T.	. 51		!										
neron	Brazos																															
mona	Neches					.39	T.								10		1.10	• • • • •			.77	.38	. 35						****	****		****
rizo Springs	Nueces Brazos		1	. 55	1.19	****					.07				.23	.00	1.				. 54											
ton	do		T.	T.	.84	.80															.04	T.	2.57									
man	Colorado				3.75														.70		.46											
egeportlege Station	Brazos				.08	.10			1								1.00				.48	T.	. 63									
orado	Colorado			.40	.61									. 15								.09				****						
umbus []	do			T.	T. 1.48	.02		. 54											1.95		.05		75			****			****			****
nanche pus Christi	Brazos			T.	1.40	.03	****								T.	T.					T.	.70	T.									
sicana	Trinity				.04	.92											1.63					. 27	T.									
ulla	Nuec.3			00	.01	1 80										T	1 97				.33											
ckettro []	Trinity Guadalupe		1	.02	. 05												.04				T.	. 22										
las []	Trinity				.05	1.24											.32					. 18	.06									
nevang	Coast			.08	16											. 10					.01										****	
Rio	Rio Grande.			1. 25	. 10			****			1					T.				.00	. 25											
lville	Neches			T.	.25	. 20	. 08									1.01					. 65											
ley	Nueces																						1 89									
blin val	Brazos Colorado			67	06											.84	.00			. 20	1. 26											
le Pass	Rio Grande.			2.50	T.												. 03	T.			.80											
stland	Brazos				2.75												T.	1 00			.80											
na Paso	Rio Grande							T.						1				1.23			****	. 44			****			T.	T.			
cinal	Nueces																															
furrias	Coast					. 59																.49				****						
tonia	Neches			T.	.06	.13	.08									T	.80			****	.03	.21	.01	****	****							
t Clark	Rio Grande.			1.50																	1.10											
t Davis.:	Pecos				.04																										.37	
t McIntosh t Stockton	Rio Grande.		T.	90	.15	. 83		****	T.	T.		T.					.12	.72		.38		. 23						1				10000
t Worth	Trinity		T.	.67	1.21				1.	1.		1.			T.	.46					. 14	. 12	. 14							1000		1
dericksburg	Colorado			-	. 53																.71	.09										
l nesville	Trinity				1.62	1 74										. 55	08		****		. 13	15	.05				deres.					
veston	Coast	1		T.	.03	.14				1	1						1. 13				. 10	. 01	2.56									
den City	Colorado		. 0	7 1. 19)					. 10												T.										
esville	Brazos				1.40	.30											1.42					.43	1.50		****							
rgetown	San Antonio			. 61	.07	20		1		1						****	. 05				. 19		. 14									
ızales	Guadalupe			. 00	. 02		.66	3								.78						3.10	. 05									1000
œ	Brazos				. 17										. 70	(m)		. 07		. 02	T.	1.34										
ham	do				1.00					1			1		.10	T.			1.77	• • • •	.50	T.			****				1			
and Falls	Pecos			08	3									T.						T.												
and Saline	Sabine				T.	.77	T.				. 10					. 82	2						. 80									
pevine	Trinity			. 68		1. 15										1.35				****	.04		1.20	****					***	****		
llettsville	Lavaca			. T.	T.	T.				T.					T.	T.	.90				. 26	. 05	T.									
mlin	Brazos			2.00																. 53		1.93										T.
rlingen	Colorado						. 1									2.00	90					1. 93	. 06		****		****					1.
rper	Colorado Brazos				9 50	.24		1													. 13	1. 20										
skell																				1.40												1

TABLE 2.—Daily precipitation for May, 1913. District No. 8—Continued.

Gistland	Watershed.	_							1/4					-	1975	Day	of m	onth	•											(migrat)	190	
Stations	Watersheet.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
continued.				1	l may						1																					
witt	Brazos			. T		T.											. 03		m		. 23	9 09	1.02									
collsboro	do				1.3	8						1			1000	0.7			10000	1000	0.4	1	1	1		1		1				****
ndo II	Nueces			. 2.2	25 .0	5															1. 45	. 45	. 36									
ouston	Coast			. T	0	T	1.35						****	7.00	T.	T.	. 10				.71	19	1.68	77	T							
untsville vton	Coast		. 7	0	. T.																											
wett	Trinity			T	5 1 2	. 3	T.									1 00	1.75					. 50										
nction	Trinity			-1	. T.	1 . 30					1	Jan-		1		1.00	.50			****	T.	T.					****				****	****
errville	Guadalupe Colorado			9	3 .5	3											2.04			. 75	. 51		1.09									
nickerbocker	Brazos		T.	T	1.40	5								T.		• • • •		T.		. 75	. 36		1. 45									
opperl	Colorado			1	6 .0	. 10	3									T.	.78				. 58	. 03	.08									
mesa	do				2 1.50												. 10				****	.32										
mpasas	Brazos															****	. 10	• • • • •	• • • •	****	. 18	2.90	••••		****	• • • • •	****					
redo II	Rio Grande.															. 20	. 85	. 40														
ureles Ranch	Coast				· m		47					· · · ·									1 50											
bertyano	Colorado		T.	.2	6 1. 4	. 0	. 21				1	1.					. 21		****	. 92	. 22	. 33	.32	****	****						****	****
ano Grande	Colorado Rio Grande.					. 62											:			. 92	1.65	. 60										
ng Lake	Trinity Sabine	****				1.2	.05	2	5				****				1.30	****				. 40		. 03				****				
bbock	Brazos				. 02						. 13										. 07		T.	. 00								
ıfkin	Neches				5 . 16		. 18				. 38										. 08											
ıling	Guadalupe Brazos	****		1	11								****				1.08				. 03	. 24	2. 10				****					****
Kinney	Brazos Trinity Rio Grande.		T.		. 2.34	.4										. 33	.14				. 04	T.	.74									
arathon	Rio Grande.	,	. 08	. 7	0 .70													T.														
arble Falls	Colorado Rio Grande.			.0	0 . 1	1	1	1111							****		. 70			. 13	. 54	. 08	****		****		****		****	****		
arshall	Sabine				. 18	. 65	. 10										. 23				. 01	. 28										
tagorda	Coast			T	12	. 11						10											.41									
exia dland	Brazos			.2	5	. 90			1			. 10	.02				. 38	****	****	****	****	. 23	. 02	****	****	****	****			****	****	
ssion	Colorado Rio Grande.																															
nt Belvieu	Nueces			0		. 30		T.					****				2.48				1 91	. 82	. 61							****		
ount Blanco	Brazos			.0	2 .02				1	5. 70				****	****		••••		****	. 26	1. 21								****	****		
cogdoches	Neches				. T.	1. 70	1.50	. 08	3							T.	1. 13					. 36	. 26	T.								
w Braunfels	Guadalupe Trinity			T.	7 . 13	41						****				. 95	. 10				1.47		.01					****				
nter	Brazos Nueces			. 7	6 1.00	T.										. 80	. 10			T.	1. 15	т.	.57		****		****					
arsall	Nueces		. 61	T.																	. 18	T.										
ainview	Colorado Brazos				. 12						35		****				. 10					-05-01						****				
rt Arthur	Coast																3. 40					. 95										
rt Lavaca	do			T.																												
sttnam	Brazosdo	****		2.8										****			****					40				****						
ymondville	Coast		T.		T.		.52															2.61	. 80									
cardo Grande	Rio Grande.					1 00	. 35															. 80										
verside III	Trinity					. 30	.48								****	****	1.85		****			1.35	.40			****		****		****	****	****
ckiand	Neches					. 40	. 20										1.60					1.10	. 30									
ckportssville	Coast Nueces			T.		T.														2.36												
nge	San Antonio.			1. 1	. 16	. 41	. 90		1	1111				****						2. 30	****	••••	****	****	****	****			****			****
binal	Nueces			2. 7	6																. 60		. 14									
ado n Angelo	Brazos			. 3	09 . 16						2 00						.38			. 25	. 40		. 26		****							
n Antonio	Colorado San Antonio. Neches			. 59	T.	. 19		****	1		3. 20			****		1. 90		****	. 99	. 20	. 20		. 13			****		****				
Augustine				T.			.03				T.					. 09	. 73				. 25	. 30	. 29									
Juanito	Coast				5 .14												70		****			. 94	. 10									
Saba	Colorado			T.	. 94								0000			.06	.04		. 22	.02	. 10											
nta Anna	do				0 2.90													. 10	. 20	. 70												
ata Gertrudes .	Coast Brazos				T.	. 82											.33				99	.38	.09									
mour	do					.06							****	****			. 00	****	****		. 20	.00	.00	****	****			****				
yder	Colorado			.3	3 .57		-				. 43										. 07											
nerville	Brazos Rio Grande.						. 25		****	****			****				. 80		****		1.05	. 30				****			****			
ır []	Brazos				09																								T.			
mfordarland	do			2. 3	5 2. 20											T.					.34											
herland Springs.	San Antonio.	****		1. 10	0	.83					****		****			.11	T.				. 12	. 48	. 03					****				
noka	Brazos			. 03	3 . 33						. 49									.38								T.				
rlor	do		. 03	. 4	2 .34	. 06										2. 69					1. 19		. 08									
odore (near)	Pecos				38	. 42			****				****		****		. 22		****		****	. 30	. 63		****	****		****	****			
irber	Brazos				2.83	. 25										. 08			. 50		1.58											
011	Guadalupe			1 0																			. 50									
entine	Nueces Rio Grande.			1.9		****		****							****		. 13			. 22		****	****			****		****	****	****		
ley Junction	Brazos				. 29		. 12										2.00					. 24										
toria	Guadalupe			·												.11							****									
co xahachie	Brazos			T.	T.	. 52			****								T.					. 10	. 48 2. 93	. 10								
stneriord	do				2. 48	1.11											. 39				. 66		.32			****						****
ls Point	Sabine			T.	T.	1. 10											. 96					T.	. 90									
LIPES .	Colorado			F	. 3. 75					1		100	2.		and the second	. 42		1	W 1 1 1 1 1 1		. 22		Section 1									

^{*} Precipitation included in that of the next measurement.

‡ Separate dates of falls not recorded.

Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3 .- Maximum and minimum temperatures for May, 1913. District No. 8, Texas and Rio Grande Valley.

		Color	rado.								N	ew Me	xico.											Tex	as.			
Date.	Garr	nett.	San	Luis.	Agric ral Co	cultu- ollege.	Carls	sbad.		Stan- n.		ntain ir.	Rose	dale.	Rosy	well.	Santa	a Fe.	Sar		Abil	ene.	Big Sj	pring.	Brovi	wns- le.	Cor	pus isti.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
4			64 56 56 58 66	33 25 22 21 23	78 83 79 78 82	41 50 39 43 38	91 88 83 76 86	45 54 54 46 40	75 70 66 68 74	31 32 34 32 34	72 68 64 68 78	42 36 32 32 32 36	66 60 53 65 70	42 40 32 35 38	83 80 75 70 83	53 46 45 40 38	66 59 55 62 68	45 37 36 36 36 39	80 75 72 71 77	50 46 47 46 39	79 77 81 75 78	64 63 57 55 52	83 84 81 79 84	60 64 57 50 47	80 80 78 84 84	68 70 70 69 68	75 75 74 77 78	6 7 7 7
8 9			66 68 63 61 76	33 33 34 32 30	86 86 83 85 87	44 50 49 40 43	88 86 86 89 88	44 48 60 50 52	70 73 76 76 80	34 36 32 34 35	76 81 78 70 82	33 32 38 38 38	72 72 74 73 75	40 40 38 40 42	76 83 83 84 85	47 49 56 48 51	68 70 65 70 73	47 48 49 43 49	72 77 80 76 82	48 45 52 50 52	72 76 82 81 83	52 51 58 58 64	77 83 82 85 85	47 47 55 57 57	79 81 81 82 85	60 64 55 57 56	79 79 78 75 76	6 6 7
2 3 4			67 61 64 68 66	30 34 33 32 24	88 89 82 80 82	43 44 56 46 39	95 96 95 99 87	54 52 61 59 55	80 82 80 78 80	35 34 33 35 36	81 78 78 72 78	41 46 43 40 27	78 78 70 70 71	44 52 54 42 37	92 93 89 83 80	47 44 51 47 50	74 74 68 62 65	43 47 47 38 37	88 90 85 77 78	48 47 50 52 42	88 93 91 89 77	60 66 67 66 59	87 98 92 95 86	57 57 64 62 62	86 84 84 83 85	60 62 65 71 73	78 79 79 80 79	000000000000000000000000000000000000000
7 8 9			70 71 69 61 65	28 31 40 36 24	86 89 88 83 85	40 40 41 52 48	92 96 95 94 93	44 45 53 55 47	82 81 82 78 78	28 34 40 35 36	79 84 84 80 79	38 44 45 45 45	76 75 78 74 75	44 50 47 50 38	88 91 84 89 88	41 46 60 54 49	72 76 74 71 68	39 45 52 47 43	85 83 86 81	53 54 53 54	88 95 91 87 84	52 69 60 63 63	95 99 99 98 95	58 60 57 64 64	85 88 87 86 84	72 67 69 73 73	80 81 81 81 80	
2 3 4			66 70 75 77 77	30 29 42 47 35	89 87 90 90 91	45 49 63 59 55	93 91 92 95 98	49 52 51 56 57	82 76 72 74 84	46 38 33 37 39	78 78 86 84 86	48 43 42 47 46	76 78 76 70 80	48 50 50 50 50	87 82 86 91 93	49 58 49 52 56	72 73 72 79 78	50 47 54 51 53	83 78 89 94 93	55 55 48 49 63	86 78 83 86 92	67 62 56 60 64	94 84 91 94 101	66 66 54 64 66	86 85 83 85 88	66 64 65 57 56	78 82 80 80 77	611
8 9 0			78 74 70 75 73 77	35 47 40 38 35 39	95 91 90 93 93 94	55 63 58 48 48 53	102 98 97 100 96 93	65 62 60 58 62 57	85 74 84 82 84 78	40 40 39 35 36 37	92 79 82 86 90 83	45 48 46 44 42 44	70 68 75 78 80 80	52 50 45 54 46 50	97 88 92 96 91	59 64 58 56 60 56	77 74 78 77 78 77	53 51 52 55 55 55	92 87 90 93 89 90	51 57 57 55 55 55 53	98 92 96 94 92 93	68 67 67 70 67 67	105 97 101 97 97 98	67 67 61 70 71 68	87 87 82 86 86 86	60 60 61 66 70 74	79 80 81 80 79 82	0 0 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
Ins			68.2	32.7	86.5	47.8	92.2	53. 1	77.5	35.5	79.2	40.8	72.8	44.8	86.2	50.9	70.8	46.4	83. 1a	50.9a	85.7	61.7	91.1	60.2	84.2	65.2	78.8	70.

														rexas														
Date.	Del	Rio.	Ei I	Paso.		ort atosh.		ort kton.		ort orth.	Galve	eston.	Hall vil		Hous	ston.	Luf	kin.	Pales	stine.	Plain	view.	Ante	n onio.	Seym	our.	Tay	lor.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1 2 3 4 5	84 83 73 87 91	66 65 64 60 55	80 79 69 73 81	60 54 50 47 53	91 90 91 96 98	70 70 67 64 66	90 90 78 78 78 88	61 61 55 48 46	81 77 74 74 79	59 62 58 55 54	75 76 75 73 76	68 70 70 71 60	83 79 78 80 87	62 64 68 69 71	81 79 77 76 82	60 64 67 70 56	85 78 77 84 84	55 56 67 63 58	82 79 76 76 76 78	60 60 64 67 59	81 83 80 71 75	55 61 59 49 47	81 77 74 84 88	65 67 65 68 60	80 78 70 78 75	63 63 59 56 51	82 77 73 77 83	63 65 63 58 59
6 7 8 9	84 86 87	62 55 60 66 63	82 84 83 85 88	58 61 58 49 50	95 92 91 90 93	58 58 55	82 86 86 87 90	52 51 61 55 57	71 75 82 83 86	55 52 57 60 62	76 75 75 76 77	65 65 65 69 69	79 80 84 85 86	65 59 57 58 58	75 78 81 82 84	61 60 61 62 62	79 77 84 86 90	58 60 56 58 58	70 75 81 83 85	55 58 56 58 58	75 77 78 82 77	45 44 47 50 50	83 84 84 84 84	62 56 58 61 63	73 75 80 83 84	52 50 56 61 63	75 80 84 84 84	57 54 56 57 57
11 12 13 14 15	94	63 66 66 68 69	88 89 82 80 81	52 56 65 59 54	95 97 102 98 95	65 62 71	98 100 95 93 90	57 64 64 58 57	88 91 88 87 84	61 67 64 68 58	77 78 79 80 78	69 71 72 73 74	87 88 88 88 88	60 63 69 72	85 85 84 84 80	62 63 65 68 72	87 89 87 88 84	57 60 61 61 63	85 86 84 85 81	62 63 63 67 59	87 95 90 87 79	54 50 60 59 45	88 89 86 87 86	62 65 66 69 59	88 94 94	60 67 66	87 88 86 87 83	60 61 64 68 60
16 17 18 19 20	92 94 97 89 88	60 68 66 68 65	85 89 89 84 85	50 61 53 62 56	101 103 98 101 100	57 68 69	96 100 98 96 93	55 57 55 58 58	85 96 84 89 80	59 67 69 70 64	78 80 80 81 81	63 73 74 74 76	88 91 90 91 87	63 68 70 69 72	83 86 86 87 83	63 67 68 67 67	88 90 90 88 84	60 60 67 65 64	81 87 87 86 77	59 66 66 66 66	89 93 86 90 86	48 47 53 62 53	88 94 91 89 89	59 67 68 69 64			83 86 86 87 81	58 63 67 69 62
21 22 23 24 25	88 91	67 69 58 60 64	87 84 89 90 90	59 60 63 63 63	97 100 92 97 96	63 60 66	97 90 90 92 100	61 56 55 59 57	89 78 80 82 90	69 64 58 56 60	81 76 79 74 77	74 68 64 66 68	86 85 85 84 86	74 69 61 56 59	83 80 80 79 83	71 67 61 60 61	82 83 85 86 85	53 52 54 55 54	84 78 76 78 82	66 65 58 54 57	77 87 90 91 98	54 48 50 53 55	88 85 84 88 88	71 68 59 59 60			86 80 81 83 86	70 63 58 56 60
26 27 28 29 30	97 96 97 93 93 93	67 67 66 71 70 73	95 87 93 93 93	62 70 62 64 64 67	98 98 98 101 99 100	60 62 	103 97 100 98 95 92	62 68 60 66 68 66	94 90 97 93 93	66 68 64 70 68 69	77 82 82 82 82 81 83	69 68 73 74 74 74	89 92 94 93 93 95	58 59 65 64 66 68	85 90 89 86 88 91	62 64 68 67 68 68	87 91 91 89 90 93	58 62 60 65 62 63	85 88 89 87 88 89	60 65 64 67 65 67	94 93 96 96 94 94	63 66 68 61 60 58	91 95 94 92 92 94	62 62 65 68 68 72			89 95 92 89 90 92	60 62 67 64 64 67
	89.7			58.2	96.5			58.3	84.9		78.1				83.0				82.2		86.2			64.1		1	84.4	61.7

 $^{\rm a}$, $^{\rm b}$, e, etc., indicate respectively 1, 2, 3, etc., days missing from the record.

DISTRICT NO. 9, COLORADO VALLEY.

FREDERICK H. BRANDENBURG, District Editor. '

GENERAL SUMMARY.

May was warmer than the normal, except in Arizona and the western part of New Mexico. The extremes of temperature were not unusual in the northern and central parts of the district, but in Arizona and New Mexico the high temperatures common to May did not occur. The feature of the month was the light precipitation. The amount was about 38 per cent of the normal, and this in view of the fact that May, normally in the Colorado Basin, is the driest month in the year. Low pressure prevailed almost continuously. Several depressions were strong enough to move eastward across the mountains, but the attending precipitation was light and scattered, the passage of the depressions being manifested principally by temperature changes and wind storms. As a result of the prolonged drought, grass on the ranges has become dry unusually early in practically all parts of the district. There was a marked excess of sunshine.

TEMPERATURE.

The mean temperature for the stations reporting was 60°, or 0.3° above the normal. The mean for May, 1912, was 58°. The highest monthly mean was 79.7° at Mohawk Summit, Ariz., and the lowest, 33.2°, at Corona, Colo. The cold and warm periods were more sharply defined than usual for the time of year. The first four days were much colder than the normal; it was during this period that the lowest temperatures of the month occurred. Freezing temperatures occurred in western Wyoming and at practically all the stations in western Colorado, eastern Utah, western New Mexico, and three-fourths of the stations in Arizona. Cold spells, but not so severe, also occurred on the 14th, 15th, 19th, 20th, and in the southern half of the district on the last four

Details of temperature are summarized in the following table:

				Temperatu	re.	
Areas of States in district No. 9,	Mean.	Departure from normal.	High- est.	Station.	Low- est.	Station.
Western Wyoming	48.2	+3.7	85	Green River	9	Willow Creek Cabin
Western Colorado	52.4	+2.5	95	At 2 stations	12	At 2 stations.
Eastern Utah	58. 2	+1.9	106	Vernal	12	Scofield.
Western New Mex- ico.	59.0	-0.2	95	At 2 stations	15	Luna.
Arizona	66.0	-1.5	107	Maricopa	15	Flagstaff No. 1.
Southeastern Ne- vada.	65.7	+6.0	100	Logan	22	Caliente.

Temperatures were normal or slightly above from the 5th to 12th in the southern and central parts, but in the northern part of the district the excess was more pronounced. From the 22d to the 27th a marked excess was general, and the highest temperatures of the month occurred during this period. Readings of 90° or higher were common, except in western Wyoming. The highest temperature, 107°, occurred at Maricopa, Ariz., on the 23d, and the lowest, 9°, at Willow Creek Cabin, Wyo., on the 3d.

PRECIPITATION.

The average for the 207 stations reporting was 0.21 inch, 0.35 inch less than the normal. The average for May, 1912, was 0.49 inch. Of the stations with normals, only 7 reported an excess, and that slight. The local character of the precipitation is shown by the fact that rain fell somewhere in the district every day but two, yet an appreciable amount did not occur at 2 stations in western Colorado, 8 in eastern Utah, 5 in western New Mexico, 1 in southeastern Nevada, and 35, or 40 per cent, of the stations in Arizona. The greatest monthly amount was 3.09 inches at Corona, Colo. Monthly snowfalls of 2 inches or more occurred at 3 stations in western Wyoming, 15 in western Colorado, and 2 in eastern Utah. The greatest monthly fall, 14.5 inches, occurred at Willow Creek Cabin, Wyo. The average number of days with 0.01 inch or more precipitation was 5 in western Wyoming, 4 in western Colorado, and 1 each in eastern Utah and western New Mexico, and no day in Arizona and southeastern Nevada. For the district as a whole the average was 1 day.

The average precipitation and departures from the normal on the different watersheds are given in the following table:

Watershed.

Gr	een.	Gı	rand.	San	Juan.	Colo	ttle rado.	G	íla.	Min	abres.		orado oper.
Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure.	Average.	Departure,
0. 46	-0.53	0.51	-0.70	0.18	-0.58	0.02	-0.55	0.09	-0.15	0.15	-0.01	0.05	-0.4

MISCELLANEOUS.

The average amount of sunshine, in percentages, with departures from the normal was as follows: Grand Junction, 80, +9; Durango, 86, +8; Phoenix, 93, +2; and Yuma, 98, +3.

The relative humidity reported was: Grand Junction, 34; Durango, 36; Phoenix, 26; and Yuma, 40 per cent.

THE COLORADO RIVER.

For May the volume discharged by the Grand River at Fruita was the average for the last six years; that of the Green River at Elgin, Utah, slightly below the average. In the lower reaches of the trunk stream the discharge was somewhat below the average. As is usual at the time of year, the changes in temperature at high altitudes were reflected in the fluctuations of the streams. In the San Juan and Grand, two of the three streams forming the

Colorado, there was a general rise until the 14th, followed by a steady fall till the 23d. The Green, however, maintained a more steady discharge, and in common with the Grand and San Juan, rose after the 23d. The maximum stage in the San Juan was reached on the 28th, while in the Grand and Green the highest occurred on the 31st. In the lower reaches the maximum stage at Topock, 10.1 feet, occurred on the 20th; at Yuma the highest stage, 20.4 feet, occurred on the 23d. These stages are the lowest for May in five years.

Table 1.—Climatological data for May, 1913. District No. 9, Coloredo Valley.

			years.	Temp	perature	, in	degre	es Fal	rent	neit.	Prec	cipitation	, in in	ches.	, 0.01		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of days, inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind c	Observers.
Wyoming.		0.000																		To Date
Big Piney	Lincoln do Sweetwater do Fremont Sweetwater Fremont Fremont	6,800 6,740 6,577 6,083 7,167 6,702 7,500	14 4 8 7	46. 6 49. 0 54. 4 47. 2 51. 9 40. 2	+ 3.7	79 80n 85 78d 84 74i	25 26 25	10 13a 25 10d 19 9i	3 2	47 48a 40 49d 47 40	1.56 0.22 0.10 0.95 0.12 1.91	+ 0.28	0.80 0.10 0.03 0.60 0.04 0.84	8.0 0.5 0.3 8.0 T. 14.5	4 3 4 6 5 7	2 9a 5 6d 10 11	20 19d 10	11	w.	Ira Dodge. J. M. Van Dervort. Eden Val. L. & I. Co. Geo. H. Maxom. U. S. Forest Service. T. C. Sherman. U. S. Forest Service.
Colorado.	Pitkin	9, 483	11	47.4h	+ 5.7	73h	29	18h	15	47h										Dan McArthur.
Blue Valley Ranch	Grand	9,536	24	41.4	+ 2.4	711	18	141	5	50 i						10	91	31		L. R. Hubbard. Albert S. McCullough.
Buford	Rio Blanca San Juan	8,900	6								0.24		0.08	0	5	20 16	8	3		Mrs. H. Genier. The Western Colo. Power Co
edaredge ochetopa	Delta Saguache	6, 175 9, 088	15		+ 2.5	85	26	26	3	41	0. 14 0. 27	- 0.69	0.08 0.22	T.	2	5a	13a	12ª	w.	Miss Bessie McDonough.
ollbran	Mesa Routt	6,000 8,766	20	56.3	+ 2.9	83	26	27	3	38	0. 47 1. 46	- 0.92	0.26	T. 4.0	2 3 7	21 17	9 12	1 2	SW.	A. A. Wood. Mrs. Martha A. Caron.
olumbine Ranch	Delta	6,925 11,660	3 6	33. 2		53	31	12	3	25	0.14		0.14	0	1 13	21	6	4	S. W.	George W. Wade. U. S. Weather Bureau.
oronaortez	Grand Montezuma	6, 100	2	56.2		85	234	24	4 3	46	T.		T.	0	0	31	0	0	sw.	W. G. Clucas.
rawford (near)	Montrose	6,600 8,867	3	55.0 43.6		80 72	29 29†	22 15	3†	37 44	0.40		0.29	0	5	19 12	9 10	3 9	w.	C. W. Roe. Charles L. Ross.
Delta	Delta Summit	4, 965 8, 800	23	60.9 42.0	+ 2.0	94 73	26 30†	29 13	3	53 50	0.30	- 0.33	0.09	3.0	5	19 10	11 10	11	sw.	E. M. Getts. Mrs. Nannie B. Strong.
Oilion Ourango	La Plata	6,534	18	55.2	+ 0.2	83	23	28	4	43	0.74	- 0.40	0.67 0.22	2,0		111	18 13	2 5	nw.	U. S. Weather Bureau.
urekaraser	San Juan	10,000 8,560	6	40.0		71	27†	12	3	52	0.52 0.87		0.20	3.0	2 4 7 4 3 6	18	0	13	s. n.	The Western Colo. Power C L. D. C. Gaskill.
ruitalade Park	Mesado	4,510 7,000	14	61.4	+ 2.7	92	26	27	4	50	0. 15	- 0.76	0.06	4.2	3	19 20	10	2 2	SW.	J. B. Willsea. A. F. Terrill.
ladstone	San Juan	10,400	6			00	21			49	0.36	- 0.68	0.26	3.3	6	8 25	13	10 2	ne. w.	The Western Colo. Power C E. A. O'Neil.
lenwood Springs (near).	Garfield	5,823	15	53.8	+ 0.1	86	31	23	4		0. 18								1	
rand Junction	Mesa Grand	4,602 8,153	22 5	64.0	+ 2.4	90	26	34	4	37	0.12	- 0.80	0.06	4.5	5	15	10	6 5	se.	U. S. Weather Bureau. Mrs. Belle Kauffman.
rand Valley	Garfield	5,089	21 20	60. 8 48. 6	+ 3.6 + 0.8	95 80	26 31	29 14	15	54 52	0.29	- 0.83	0. 22 0. 04	0	2 1	10 20	15	6	sw.	David Evans. Clarence Adams.
unnison	Routt	7,670 6,337			+ 0.0	82	26	20	3	45	0.25		0.09	0	3	7	17	7	w.	A. W. Friederich.
lesperus (near)	La Plata Montrose	7,610 8,700	3								0.04		0.04	2.0	1 2	11 21	13 8	7 2	sw.	G. F. Snyder. Lawrence J. Finch.
onton	Ouray	10,000	3	40 4		76	26	20	4	39	0.36		0.36	T. 2.5	1 9	12	16 11	8	Se. 8.	Mrs. Amanda E. Foley. J. F. Maurer.
ake Cityay	Hinsdale Moffat	8,686 6,190	19	48. 4 53. 3	+ 3.5	83	26	16	12	60	0.40		0. 15	0	4	13	13	5	SW.	A. G. Wallihan.
fancos	Montezuma Gunnison	6,960 7,951	14	55.0 49.4	+ 3.8	83 77	27 30	21 16	5 3	55 43	T. 0.54	- 1.19	T. 0. 18	3.0	0 4	11 22	14	6 3	w. ne.	Miss Gertrude Rickner. F. E. Morse.
farshall Pass	Saguache Rio Blanca	10,846 6,182	10 21	53. 1	+ 1.8	81	26†	19	4	54	0.47	- 0.46	0.17	2.0 T.	3 4	9 20	16 g	6 2	sw.	Wm. L. Williams. T. Baker.
leeker (near)	Montrose	5,811	24	59.2	+ 4.4	86	12+	26	3	45	0.57	- 0.13	0.34	0	4	15	13	3		U. S. Reclamation Service.
last Pagosa Springs	PitkinArchuleta	7,953 7,108	6	46. 2 48. 6		76 84	29 26	18 14	3† 4†	45 58	0. 18 0. 08		0.12	3.0	1	14 16	13 15	0	W. SW.	Arthur Hanthorn. E. T. Walker.
Palisades	Mesa Delta	4,729 5,694	2 18	63.5	+ 1.8	95 91	26 26	30 26	3	49 43	0.34		0.20	0	3	15 11	12 19	1	sw.	E. T. Walker. E. P. Updegraff. J. M. Underwood.
ikin	Gunnison	9,500	4		T 1.0						0. 19		0.07	T.	3	14	10	7	S.	Mrs. Maggie Cammann. E. E. Egry.
Pyramid Redcliff	Rio Blanca Eagle	8,695	20																	Dorothea Greiner.
Redvale	Montrose Dolores	6,300 8,824	11	56.2		82	23†	20	3	38	0.60	- 1.25	0.33	1.0	5 2 1	18 21	10 .	3 2	SW.	Dr. E. S. C. Foster. Clinton B. Smith.
lifle	Garfield	5, 437	2 7	59.2		88	26†	27	4	50	0.18		0.09	0	2	14	6	11	SW.	Herman Eiche. U. S. Reclamation Service
River Portal	Montrose Gunnison	6,570 8,125	10	59.0 47.5	+ 2.5	88 75	30 26	30 18	3	44 40	0.31	- 0.83	0.31	3.9	6	28 17	7	7	w.	W. F. Irving.
hoshoneilverton (near)	Garfield San Juan	6, 110 9, 400	3 6	59.0 41.8		85 69	29 22†	34 16	4	40	0.44		0.25 0.20	T. 0	6 2	12	13 19	6 3	sw.	Central Colorado Power C The Western Colo. Power C
pruce Lodge	Grand	9,600	5 10						4	50	2.00 1.53		0.45	9.0	11 4	5 19	20 10	6	n.	H. J. Wills. Herbert B. Gee.
Steamboat Springs	RouttLa Plata	6,683 7,300	6		+ 2.0	82	29	19			0.23		0.22	T.	2	5	13	13	8.	The Western Colo. Power C
elluride Terminal Dam	San Miguel La Plata	8,756 8,300	6	47.0		74	22	18	4	50	0.30		0.12	4.0	4	16	12	3	se.	David S. Painter. The Western Colo. Power C
Yampa (near)	Routt	8,000	4								0.14		0.14	1.5	1	18	8	5	SW.	Wm. A. Charls.
Utah.																-				
neth	San Juando	4,800	9	66.3 64.9m		92 93m	23† 26	35 33m	15	43 41m	0.20		0.20	0	1 0	28 29	1	1		H. R. Antes. H. H. Redd.
anaan	Washington															,		0		J. M. Lauritzen. Miss Fay Jeffs.
astle Daleisco (near)	Emery	4, 100	13		+ 1.0		11	14	3	49	0.05		0.05		1	19	12			J. J. Anderson.
ragon	Uinta Wasatch	6,000	6	58.84 55.4		84	26 25†	30 18	3	38 42	0.28 0.16		0.28	T.	3	15	13	6	8.	H. D. Ford. M. M. Smith.
lkhornmery	Uinta	6,657	3				23†	21			т.	- 0.46	T.	0	0		1	29	8.	Chas. DeMoisey, jr. H. C. Wickman.
scalante	Emery	5,700	10	56.6	+ 3.1 + 1.4	83 84	25	28	1	38 50	0.00	- 0.43	0.00	0	0	30	0	1 2		. Geo. H. Barney.
ort Duchesne	Uinta Wasatch	4,941 7,625	25		+ 3.4	88	25	29	3		T	- 0.74	Т.	0			10	2	w.	Geo. W. Dickson. J. Peter Naab.
rayson. Freen River	San Juan Emery	6,000	6			83 90	23 11	28 32	3	36 520	0.00		0.00	0			70	4		E. F. Thompson. Edgar E. Adams.
ianksville	Wayne	4,200	13 2	56.3		92	26†	26	4	48	0.00		0.00	0	0	24	7	0	sw.	F. J. Weber.
Iurricane	Garfield	3,500	13	71.2	+ 3.4	97	23†	42	4	42	T. 0.25	- 0.58	T. 0. 25	0			10	0		. John P. Hite. . Amos Workman.
anaba Sal	Kane	4,925	5 10													• • • • • • • • • • • • • • • • • • • •				Vermilion Co. Gertrude W. Carpenter.
eeds (near)	San Juan Washington	3,400		66.0		91	25	39	2	34	0.22		0.22	0	1	8	7	16		. B. F. Anderson.
oa Ianila	Wayne Uinta	7,000 6,225	17	52.3		80	25†	25	61	46	0.62		0.20		5	8	21	2		W. S. McClellan. Daniel M. Nelson.
loab lonticello	Grand	4,000	3 23	67.2	+ 3.3		23†	33	4	51	0.19		0.13	0	2	9	20	2 2		Henry Crouse. Geo. F. Barton.
Mountain Home	San Juan Wasatch	6,750	5							0000	0.25	1	0.20		2		1		sw.	Oscar Wilkins.

Table 1.—Climatological data for May, 1913. District No. 9—Continued.

			years	Temp	erature	, in c	legre	es Fah	renh	eit.	Prec	ipitation	, in inc	1	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind tion.	Observers.
Utah-Continued.						,														
New Harmony Orderville Pine Valley Price	Washington	5,200 6,660 6,000 5,557	2 3 2 2	59.0°		90	26	24	3	46	0.25 T. 0.50 0.11		0.25 T. 0.42 0.07	T. 0	2	17 9 ⁵	4 11a	10 10a	nw.	Geo. F. Prince. F. A. Porter. Mason Gardner. Geo. Mathis.
Raneh	Kane Emery Washington	6,700 4,250 2,880 7,625	11 1 26 4	66.8	+ 1.0 ± 0.0	97	23 22† 26	33 12	3 3 4	46 49 51	0.00 0.00 0.05 0.77	- 0.33	0.00 0.00 0.05 0.49	0 0 0 4.0	0 0 1 4	28 23 21 22	3 5 9 0	0 3 1 9	w. se.	J. W. Seaman. J. J. Nouguier. A. B. Ballantyne. B. Newren.
pringdaletrawberry Tun. E easdale	Wayne	3,500 7,650 7,090 5,150 7,000	5 1 4 2 16	56.0 63.7d	+ 0.6	98 91	27 26 26 23	14 20 31 26	3 3 2† 3	49 58 34 40	1. 16 T. 0. 03 T.	- 0.71	0. 45 T. 0. 03 T.	6.5 T. 0	4 0 1 0	12 14 20 ^d 10	7 14 6d 19	12 3 1d 2	w. sw. nw.	Hattie Wood. Reclamation Service. Henry Cullum. Mrs. A. M. Starmont. E. P. Bolton.
'ropic 'rout Creek Rngr 'ernal Victor Vhite Rocks	Uintado	9, 200 5, 050 5, 250 6, 200	16 16		+ 2.2	106	28	21		68	0.01 0.00 0.02	- 0.96	0.01 0.00 0.02	0 0 T.	1 0 1	22	5	4	w.	Forest Supervisor. H. E. Dillman. F. F. Noyes E. C. Sims.
Voodside	Emery	4,645	2	59.6		93	25	26	3	48	0.39		0.39		1	20	11	0	8.	D. P. Adams.
Ilma	do		15 6 13		- 1.4	84	22 22	24 20	4 5	57 52	0.20	- 0.24 - 0.52	0.04 0.20 T.	0 0	3 1 0	12 16 21	19 15 10	0 0	SW. SW.	Max A. Balke. John R. Milligan, Dr. T. J. West.
Berger's Ranch Blackrock Bloomfield ambray	McKinleydoSan Juan	8,000	1 4 18 14			78 84 92	221 7 26	18 24 25	4† 11 4		0.18 T. 0.19 0.00	- 0.22 - 0.10	0.18 T. 0.19 0.00	0 0 0	0 1 0	25 25 26 30	3 2 4 0	3 4 1 1	w. e. sw.	Herman Berger. Patrick Des Georges. Fred LeClerc. Agent So. Pac. R. R.
aminay liff olumbus eming	Grant	4,470	13 4 36 16	63.6	- 0.7 + 1.6	95 95	26 28 31	18 36 20	4 4	61 46 53	0.22	+ 0.04	0. 17 T. 0 0. 10	0 0 0	0 0 2	26 25 29 25	5 1 2 5	0 5 0 1	SW. W.	W. C. Belden. Agent E. P. & S. W. R. F. Agent So. Pac. R. R. E. O. Green.
armingtonort Bayardruitlandage.	San Juan Grant San Juan	6, 152 4, 800	44 19 13	61. 2 60. 2	- 0.4 + 0.3	85 89	26 25 31	32 26 38	3 4 24	37 47	0.47	+ 0.16	0.23 0.00 T.	0 0	4 0 0	23 19 25	3- 12 3		w. sw. w.	Orville Ricketts. U. S. Genl. Hospital. Cyril J. Collyer. Agent So. Pac. R. R.
illa Planting Station O. S. Ranch	Grantdodo	6,475 8,000 4,504	1 4 2	60.4 55.8		84 90	26 22	29	3	37		*******	0.08 0.13 0.20	0 0 0	3 1	26 15 29 21	12 1 9	1 4 1 1	W. W. SW.	U. S. Forest Service. Victor Culberson. Agent E. P. & S. W. R. I Dr. John R. Haynes.
lermanesordsburguna fimbres	GrantSocorro	4,451	31 12 8	66.6 51.8	- 2.1 + 0.1	94 83	26 22	35 15	4 4	45 53	0.00 T. 0.38	- 0.20 - 0.10	0.00 T. 0.20	T.	0	29 15 9 26	2 16 22 5	0 0 0	W. W. W.	Agent E. P. & S. W. R. 1 J. H. McClure, C. B. Martin. Charles Dennis.
Pinos Altos (near) Pratt Putnam Redrock	do	7, 253 4, 415 6, 200 4, 150	2 4 1 8	57.8		89	28	21		57	0.46 T. T. 0.12		0.21 T. T.	0 0 0	3 0 0	23 24 21 25	8 7 7 5	0 0 3	W. SW.	O. L. Scott. Agent E. P. & S. W. R. I C. F. Spader.
Rodeo Bilver City	do	4, 118 5, 860	1 2					28	3	44	0.21		0.16	0	3	26	5	0	n.	Robert H. Woods. Agent E. P. & S. W. R. I E. M. Brumback.
Arizona.	Cochise	4, 184	16								0.05	- 0.09	0.03	0	2	23	3	5	sw.	Thomas Allaire.
Alpine Ashfork Aztec	Apache Yavapai Yuma	8,500 5,229 492	1 1 15	45.5	- 3.2	101	22	46	11	44	0.05 0.00 0.00	- 0.05	0.05 0.00 0.00	0	1 0 0	17 24 29	11 3 2	3 4 0	s. 	U. S. Forest Service. Do. Agent Southern Pacific R
Benson Bisbee Blue Bonita	Greenlee	5,350 6,500 4,916	23 2 39	65.4	- 7.5 - 0.5	88	23	38	2	38	0. 20 0. 16 0. 10	- 0.16	0.10 0.11 0.10	T.	2 2 1	25 27 20	9	5 4	S. S.	Do. Bisbee High School. Mary A. Jones. A. H. Jelley.
Bowie Buckeye Canille Casa Grande	Maricopa Santa Cruz Pinal	1,396	21 4 32	72.6	+ 1.1 + 0.2	100	22	40		50	0.00 T. 0.00	- 0.22 - 0.07 - 0.05		0 0 0	0 0	25 28 21 31 26	6 1 10 0 1	0	SW.	Agent Southern Pacific H. E. Kell. Robert A. Rodgers. Agent Southern Pacific Frank Pinkley.
Casa Grande Ruins Cave Creek (near) Chandler Chin Lee Chlarsons Mill.	MaricopadoApache	1,452 1,213 6,090	18 5	72.4 59.0	- 1.1	102	27 12	41 23	4 1 3	52 51	0.00 0.00 0.02	- 0.06		0 0 0 0	0 0 1	28 8 13	3 14	0 9	nw.	John B. Lammers. F. V. N. Dana. Rev. L. Ostermann, O. F. Hiram R. Chlarson.
Cochise	Greenlee	3,584 4,219 1,900	23 13 11	74.1	+ 3.7	. 99 . 97 105	23 27	40	4	47	T. 0.06 0.00	- 0.39 - 0.11 - 0.20	T. 0.03	0	0 3 0		1 0 4	7 0	w.	
Oos Cabezos Douglas. Oudleyville	dodo	5,250	10 21	62.5 67.2 67.0	- 0.6 - 2.8	94 98 96	23 23	33 † 40	2	† 52 47	0. 22 0. 19 T.	+ 0.01 - 0.38	0. 22 0. 17 T.	0	1 2 0	25 29 19	5 2 9	0 3	w. sw. sw.	Neil Erickson. Dr. F. T. Wright. George F. Cook. George Beebe.
airbank lagstaff lagstaff (1) lorence	Cochisedo	3,862 6,907 7,500 1,504	21 4 14	49.6 46.2 75.2	- 1.1 + 0.4	78 . 78 105	22 22 23	18 15 42	3 2 1	47 51 † 52	T. T. 0.00	- 1.21 - 0.04	T. T. 0.00	T.	0 0 0	25 24 28 27	1 4 3 1	5 3 0 3	SW. SW. W.	Agent E. P. & S. W. R. George T. Herrington. U. S. Forest Service. Agent Ariz. Eastern R.
ort Apacheort Huachucaort Mohave	Navajo	5, 200 5, 100 604 737 3, 625	27 45 23	66.8	- 0.2 - 0.6 - 4.1	. 99 102	27 25 11	40 † 45	10	41 54	0.00	+ 0.01	0.20 0.00 0.05		0 1		6	5	se.	Post Surgeon U. S. Arm Do. August F. Duclos. Agent Southern Pacific Dr. B. G. Fox.
rand Canyon	Coconinodo	3,676 1,325	8 4 20	73.0	- 0.1	103	30	† 20 42	3	58	0.00	- 0.15	T.	Т.	0	27	3	3	sw.	Agent Grand Canyon R B. W. Zachau. U. S. Reclamation Ser
Tereford	Navajo Pima Gíla	3,000	23 2 6								. 0.00		0.00		0	31				Agent E. P. & S. W. R. Thorwald Larson. Joseph Menager. U. S. Reclamation Services
Feems Canyon	Yavapai	4,743	16	56.4		. 86	26	24	3	† 42	0.00 T.	- 0.53 - 0.19	0.00 T.	т.			12	i	w.	Fred A. Bartram.

Table 1.—Climatological data for May, 1913. District No. 9—Continued.

			ears	Temp	perature	, in	degre	es Fal	arenl	neit.	Pre	cipitation	n, in in	ches.	lays,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy c	Number of clear	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind d	Observers.
Arizona—Continued.																				
Kingman	Mohave	3,326 6,500	9 14	66.0 52.8		95 82	15 23	34 19	2† 4	53 46	0.00 T.	- 0.54	0.00 T.	0	0	26 23	0	5	se. sw.	Agent A., T. & S. F. Ry. Prof. Joseph Peterson. Agent E. P. & S. W. R. R.
Lakeside	Navajo Cochise	4,029	4	92.8		02	20	19	4	30	1.	- 0.34	1.	0	0	20	U		bw.	Agent E. P. & S. W. R. R.
Lewis Springs	Coconino.	7,180	2																	Vesto M. Slipher.
Lowell Observatory McNeal	Cochise	4, 150	2								0.14		0.07	0	3	23	5	3	SW.	Gladys Taylor.
Maricopa	Pinal	1,186	36	75.8	- 4.2	107	23	43	2	55	T.	- 0.05	T.	0	0	29	5 2	0	W.	Agent Southern Pacific Ry
Marinette	Maricopa	1,155																		Theo. Katzenstein.
Moccasin	Mohave	4.500	1	57.5		105	25	24	4	61	0.03		0.03	0	1	20 27	11	0	W.	J. G. Maxwell.
Mohawk Summit	Yuma	538	13	79.7	- 2.2	102	26	57	1	37	0.00	- 0.03	0.00	0	0	27	2	2	n.	Agent Southern Pacific Ry
Naco	Cochise	4,579	4								0.21		0. 16	0	0	30	0	1		Agent E. P. & S. W. R. R.
Naco. Natural Bridge	Gila	4,990	24								0.00	- 0.52	0.00	0		21	9	1	SW.	D. G. Goodfellow.
Nutrioso	Apache	8,000	20		1.0					94	0.14	0.05	0. 10	1.2	1	26	20	1	SW.	U. S. Forest Service. J. W. Lawson.
Oracle	Pinal	4,502		66.6	- 1.9	91	23	37	2	34	0.11	- 0.25	0.11	0	1	20	10	0	w.	Agent E. P. & S. W. R. R.
Osborn	Cochise	4,676 5,436	6	58.9		88	27	30	3	51	0.35		0.35	0	1	18	11	2	SW.	J. C. Hancock.
Paradise	Yuma	345	19	75.4	- 1.0		24	40	1+	49	0.00	- 0.14	0.00	0	0	28	3	ō	SW.	M. A. Isreal, M. D.
ParkerPayson	Gila	5,550	5	56.8	- 1.0	90	31	26	2	54	T.	0.14	T.	0	0	23	4	4	SW.	Mart McDonald.
Phonix	Maricopa	1,108	18	73.8	- 1.0		26	26 46	1† 2 2	39	0.00	- 0.03	0.00	0	0	24	4	3	0.	U. S. Weather Bureau.
Phoenix (1)	do	1,092	25	71.8	-1.0 -2.0	100	23†	40	3 5	48	0.00	- 0.06	0,00	0	0	28	1	3	W.	Geo. Acuff.
Phoenix (2)	do	1,189	4	74.2		100	23	41	5	52	0.00		0.00	0	0	28	0	3	sw.	Salt. Riv. Val. Nurseries.
Pinal Ranch	Dinal	4,520	19																	Irion & Craig.
Pinedale	Navajo	6,500	1								0.00		0.00	0	0					E. Thomas, jr.
Pinto	Apache	5,660	7								T.		T	0	0	24	7	0	SW.	Celia F. Henning. Dr. J. W. Flinn.
Prescott	Navajo. Apache Yavapai do Yuma	5,320	47	55.8	- 2.9	85	22†	23	3	45	T.	- 0.51	T.	0	0	29	2	0		Dr. J. W. Flinn.
Prescott Dry Farm	do	5,008	1	62.2		88	23	36	29	39	0.04		0.04	0	1	25	5 7	1	S.	L. L. Bates.
Quartzsite	Yuma	800	6	76.4		105	22†	42	3	45	0.00		0.00	0	0	23 27	7	1	8.	W. E. Scott.
Rice	GHa	2,540	31		- 4.0			32 47	4	53h	0.00	- 0.26	0.00	0 0	0	27	4	0	SW.	Arthur Pritchard.
Roosevelt	do	2,175	8	77.0		103	27†	47	3	42	0.00		0.00	0	0	25	6	0	W.	U. S. Reclamation Service.
Sacaton	Pinal	1,280	9	74.0		103	23†	39 25	3	49	0.00		0.00	0	0	24	1		sw.	E. W. Hudson. Alexander Shreeve.
St. Johns	Apache	5,650 $6,950$	25	54.0		90 84	23 26	23	4	44	0.00	0.03	0.00		0	29	8	3	SW.	Rev. Anselm Weber, O. F. M
St. Michaels	Cochise	3,609	27	88 4	+ 1.6	98	27	30	4	61	T.	- 0.63 - 0.15	T.	T.	0	22 28 22	2	0	se.	Agent Southern Pacific Ry
San Simon	Yavapai	5,219	6	57.0	- 9.9	87	5	22	2	54	0.00	0. 10	0.00	0	0	22	3	9	SW.	Lib A T & S F Ry
Seligman Sentinel	Maricopa	685	15		- 1.2	106	22	48	3†	46	0.00	0.00	0.00	ő	0	31	0	0		Lib. A., T. & S. F. Ry. Agent Southern Pacific Ry
Silverbell	Pima.	2,664	8	11.0		104	23	10	oi	10	0.30	0.00	0.30	0	1	26	0	5	S.	Imperial Copper Co.
Snowflake	Navajo	5,644	6	55.2		87	23	18	4	56	T.		T.	0	0	18	11	2	sw.	Imperial Copper Co. William J. Flake.
Springerville	Apache	6,862	2																	U. S. Forest Service.
Supai	Coconino	3,200	5																	Laura B. Symons.
Tempe	Maricopa	1,165	9	72.6		102	27	44	2†	53	T.		T.	0	0	24	7	0	nw.	F. H. Simmons.
Thatcher	Graham	2,800	9	70.4		104	22	34	4	55	0.08		0.05	0	2	23	7	1	w.	J. H. Larson.
Tombstone	Cochise	4,550	17		+ 2.7	97	22	40	1	39	0.07	- 0.17	0.07	0	1	24	7	0	SW.	F. N. Walcott.
Truxton	Mohave	3,997	4			95	23	30	2	50	T.		T.	0	0	17	7	7	S.	Truxton Cany. Ind. School
Tuba	Coconino	4,500	13	62.8	+ 1.1	90	23	30	3	43	T.	- 0.19	T.	0	0	19	12	0	sw.	Ira Bell.
Tucson	Pima	2,390	31	71.1	- 2.0	101	23	38	4	49	T.	- 0.13	T.	0	0	15	15	1	SW.	University of Arizona.
Tucson (1)	do	$2,380 \\ 2,526$	5	67.9		101	23† 27	32	4†	59a	0.00		0.00	0	0	24	7	0	w.	Rev. James F. Record. U.S. Coast and Geodetic Su
rucson (2)	do	2,526	3	70.4		100	27	38	2 2	48	T.	1 0 50	T.	0	0	24 28	5 0	2	w.	Agent Southern Pacific Ry
Vall	Voyanai	3,421 $3,649$	14 20	65.0		98	26	32	2	51a	0.60	+ 0.58	0.60	0	0	28	0	3		J. O. Carter.
Wanut Grove	Maricopa	2,072	14	67.0	_ 9 7		****	36	12	52b	0.00	- 0.09	0.00	0	0	31	0	0	8.	Agent S. F., P. & P. Ry.
Wickenburg Willcox	Cochise	4, 164	31	07.0	- 2.7			90	12	020	0.00	- 0. 19	0.00	0	0	91	0	0	3.	Agent Southern Pacific Ry
Williams	Coconino	6,750	13	53.6	- 0.4	83	22†	23	2	45	T.	- 0.90	T.	T.	0	28	3	0		E. J. Nordyke.
Winslow	Navajo	4,855	5	00.0	0.4	00	221	20	-	40	4.	0.90	4.	1.	0	20	0	0		Winslow High School.
Yuma		141	32	74.9	- 1.9	100	11	47	2	43	0.00	- 0.03	0.00	0	0	30	1	0	S.	U. S. Weather Bureau.
Yuma (1)	do	150	6	70.2	- 1.0	97	23	40	2	47	0.00	- 0.00	0.00	0	0	29	2	0	SW.	C. J. Wood.
Nevada.																				
Caliente	Lincoln	4,407	3	56.3		87	26	22	3	51	0.05		0.05	0	1	29	1	2	ne.	Salt Lake Route.
Las Vegas	Clark	2,033	11		+ 6.0	99	23†	42	8	46	T.	- 0.10	T.	0	ō	23	6	2	S.	C. P. Squires.
Logan		1,355	6	69.8	+ 0.0	100	241	38	3	50	0.00	- 0.10	0.00	0	0	31	0	ő	S.	Orin W. Jarvis.
		41000	U	00.0		200	4.4	60	U	w	0.00		01.00	. 0		0.4			100	TT U (81 T 80)

^{*,} b, e, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

**Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

T. Precipitation is less than 0.01 inch rain or melted snow.

Table 2.—Daily precipitation for May, 1913. District No. 9, Colorado Valley.

Stations.	Watershed.														I	Day o	of mo	nth.															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	-
Wyoming.																																	-
g Piney	Green																																
niel	do	T.	.80					T.								T.			. 25						T.			T.		T.	. 41	T.	i
een River	do		. 03						T.									T. T.	.08									02				****	. 0
nedale	do	. 10	. 60													T.	.01			.08	. 14									.02			0
amsutterillow Creek Cabin	do	.14	.84		T.					Т.				. 04			07	.03 T.	. 02	.08												. 02	2 0
Colorado.																		1.		.00	. 00									****	****	. 47	1.
hcroftue Valley Ranch.	Grand																																
eckenridge	Yampa Grand																																
ford	White																							****									1:
cadelaredge	San Juan Gunnison			T.					.01																			. 08	. 03				. 0
chetopa	do							T.	. 05											. 22							T.			T.	T.		0
lbranumbine	Grand Yampa		Т.												. 26										. 03			. 01					. 0
umbine Ranch	Gunnison								T.													.00							. 01		****		1
ona	Grand San Juan			. 56						. 65	. 02				33										.02			700	. 02	. 03			. 3
wford (near)	Gunnison														.ii				. 29	****							****	1.	****			****	. (
sted Butte	do								. 22						. 10					. 07					T.		. 05						. (
on	Grand			. 03						. 13					.02			Т.							.05		.05	.09	. 07	****			1
ango	San Juan	****																							.07			. 67					
ekaek	Grand			. 20		1		1		. 02							T.			. 22	T.		***	T.	T.	T.		.10					
ita	do		T.	. 02										T.	. 05			T.		.06	.03							.02	. 10				
ie Park Istone	San Juan			. 20	.01									T.	. 20		T.			. 09							T.	T.					
'd Spr'gs (near).	Grand														T.					. 26 T						T.	T.	. 04	. 02			****	
nd Junction	do		T.	.04										T.	. 01			T.		.06							T.	. 01					
ndlakend Valley	do	T.	.38	T.				. 30	. 10						T. 07		T.		T.						70	T		T. T.	T.				
nison	Gunnison								T.						.01			T.		. 22						T.		.04			****		
den perus (near)	Yampa									T.								T.				.09			T.			T.					
sefly	La Plata Gunnison				1													T			48						T.	. 04	T.		T.	T.	1
ton	do				T.					T.							T.			T.					T.		T.	T.	1.		1.	1.	1
e City	Yampa				. 03				.03																				. 06	. 01			
008	San Juan																										. 15 T.		T.				
bleshall Pass	Grand Gunnison			. 18											. 12													. 10	T.				
ker (near)	White			. 03											.03					. 17	. 15					. 15		. 15					
trose	Gunnison			T.											. 02					. 13	.08							.34	****				
osa Springs	Grand San Juan		T.	. 12		****		****	T.		****	****			.06					T.	****							.08	· · · ·			· · · ·	
sades	Grand		T.	1 . 12	2						1	1	1		0.9	1				90				1					1.			T.	
nia	Gunnison	****													. 25				****	. 15						T		T.					
amid	Yampa	****																									.05	.07					-
vale	Grand San Miguel	****		****																													
· · · · · · · · · · · · · · · · · · ·	Dolores			. 13		.03		T.							T.					. 27		.07						T.		05			
Dowtol	Grand														. 09					. 09										. 00			
er Portal nero (near)	Gunnison		T.	. 02											. 31										05		T.	12					
shone	Grand														. 25					. 05	.04	. 01						. 03	.06				
erton (near)	San Juan Grand		T.	T.					04	40					. 27			T.	T.										. 08				
mboat Springs.	Yampa								T.	. 40				. 52						т.	. 51	. 18		T.	. 07		. 09	.01			T.		
oma	San Juan			T.				T.										T.		T.				T.	T.	T.	T.	. 22	. 01				
ninal Dam	San Miguel San Juan			1.					T.						T.			T.		T.	. 12						T.	. 11	. 04				-
npa (near)	Yampa								T.									****			T.	T.					T.	T.	T.				1
Utah.	San Juan																											00					
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esne	Grand Greendo		T.												T.			T.		. 28	T.			T.	· · · ·		T.						
orn	do		1.												****			T.		T.	T.			Т.	T.		. 09	. 03	. 04			****	
rylante																																	1
Duchesne	Colorado Green																	7			1		713		T		Т.						1
tland	do																											****					
n River	San Juan Green																						22.00						****	****			
ksville	Colorado																														****		
icane	UU					****														1								T.					
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s (near)	Colorado																	****			****					****		. 22		****			-
is	Green		. 13															-01		. 20								. 15	. 13				1
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ntain Home	San Juan Green		****	. 05							****							****										20					1
Harmony	Colorado				****																	!						. 20	. 25				1
I VIIIO																			- 1		- 1			1	- 1	1				T.			
	Green																			0.4									. 06				1
h	Colorado														****	****				. 0.3		****		****				.01					1

Table 2.—Daily precipitation for May, 1913. District No. 9—Continued.

Marations	Watershed.						-		y Di	0 -1	147					Day	of m	onth	1.														
Stations.	watersneu.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Utah—Continued.																														Lini			1
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ofieldringdale	Green Colorado	. 10	Т.										***							. 49	. 01							. 17					-
rawberry, east	Green	. 20	.14	5	1									T.				T.	T.	. 45	T.						T.	. 36					:
asdaleompsons	Grand				-											• • • •				T.								T.					
opic	Colorado		T.																										1				
out Creek Ranger rnal									1::::				1													.01							
tor	do																																
nite Rocks	do		. 0.											****							T.					T.		T.	.39				-
New Mexico.																		ξ,											. 00				
na	Gila			Т.																					T.		. 04	. 02					
gon	San Juan			****								****																. 20					
gers Ranch	Little Colo-																					:						T.				****	-
krock	rado. do																							m							1		-1
mfield	San Juan													T.				T.						T.			T.	T.				****	
bray	Mimbres																																-
mbus	Mimbres																							T.	. 05			T.		****			1
inge	San Juan															• • • • •												. 03					
Bayard	Mimbres																							T.	. 01	. 15	T.	. 03				. 10	1
tland	San Juan Mimbres										****					••••								100									-
Planting Sta-	do																							T.	T. T.	. 08	T.	.06	.06				-
n. . S. Ranch	Gila																											Will.		1			1
nita	do																							. 13	. 06	T.	T.	. 08					
nes	San Juan Mimbres																														T.	T.	
sburg	Gila																							T.				****				****	
bres	Mimbres			T.																				. 20	T.		. 18						
s Altos (near)	Gila																			****				. 14	. 09			. 22					-
am	San Juan																										T.						
ock	Gila																					****		T.	T.	****	T.	T.					-
or City	Mimbres																																
Arizona.			****					****			****		****	****					****	****		****	****	. 02	. 16		••••	. 03			• • • • •	****	
ires Ranch	Sonora																								00	02	1					157	1
ne	Gila																						****		. 02	. 03		. 05					
ork	Verde Gila		****																														
on	San Pedro																									. 25							-
e	do Gila			T.																					. 10	. 10							
ta	do																					****		• • • • •	.05		T.	.11					-
eeye	do					****																					T.						
le	San Pedro																****				****				T.	T.							
Grande Ruins	Gilado																																
Creek (near)	Desert									••••	****		****													T.							-
dler	Salt																																1
sons Mill	Gila							****							****										. 23			. 02					
n	Desert																											T.				****	1
nbia	Agua Fria	****	****	****	****			****																	. 02	. 01		. 03					
land Cabezos	White																					. 22									****		1
las				T.													• • • • •							т.	. 22								
eyville	Gila																							1.	T.	T.		T.	****		****		1
ank	San Pedro																								т.	****							
taff	L. Colorado.																								1.	T.							1
taff (1)nce	Gila				****																					T.							
Apache	Salt																	****			****		****					****					1
Huachuca Mohave	San Pedro Colorado	• • • • •																								.08	. 20						
end	Gila																									. 05						****	1
d Canyon	Salt		T.																														
Canyon (1)	do																									• • • •		****				****	1
te Reef Dam	Salt L. Colorado.		• • • •					• • • •																									.1
ord	San Pedro																				****			.02	.02		••••			****			
rookn Oasis	L. Colorado. Desert																																1
e	Salt												****					• • • • •			• • • • •	••••				••••	••••						1
ne ns Canyon	Verde			TP.																												****	1
man	L. Colorado			Т.		****	****		• • • • •	• • • •	••••	• • • • •	• • • • •													• • • •		T.					1
sides Springs	L. Colorado.																											T.					1
	San Pedro L. Colorado.																																.1.
nal len	White																								.05	.02	.07	****	****				1
nette	Gila	••••	••••			••••	• • • • •		••••																	T.							.1
asin wk Summit	Colorado												****	****	.03			• • • •			• • • • •		• • • •				****						1
	Gila																																εØ

Table 2.—Daily precipitation for May, 1913. District No. 9—Continued.

																Day	of m	onth															
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Arizona-Contd.																																	-
Veternal Daides	37 and a								1								1	1				1											
Natural Bridge	Verde																	****									****						. 0. (
Nutrioso	L. Colorado.																																. 0.
Oracle	San Pedro															***			****							. 11							. 0.
Osborn	do			***																													. 0.
Paradise	Desert																				1			Sec.	Т.	1							. 0.
arker	Colorado																																. 0.
ayson	Gila							deres.		10000															. T.								T
hoenix	Salt																																. 0.
hoenix (1)	do																																. 0.
hoenix (2)	do																			14444		****											0.
inal Ranch	Gila																																
inedale	L. Colorado.																																0.
into	do			T.																				T.				T.					T
rescott	Hassayampa																								T.						:		T
rescott Dry Farm.	Verde																									. 04							0.
uartzsite	Colorado																																0.
ice	Gila																	1000		1	1				1								0.
oosevelt	Salt					1				1000	1			1						1	1		1000	1	1			1					0.
acaton	Gila								1				1																1			1	0.
. Johns	Little Colo-												1								1						****	1					0.
	rado.		1	1																													0.
. Michaels	do			1	T.																			T.	T.	T.	T.	T.	1				T
an Simon	Gila													****											T.						****		T
eligman	Verde																							****		****				****	****	****	0.
entinel	Gila													****		****	****			****			****	***	****		****		****		****	****	0.
ilverbell	Santa Cruz			1						****					****							****				20					****		
nowflake	Little Colo-							****	****	****		****	****			****		****		****			****		T.					****	****		0.
HOW HAKO	rado.																					****	****	****	1.		****			****			T
pringerville	do			1																								-					
upai	Colorado																																
																		****					****	***	m	****		****		****		****	1 20
empe	Salt					****																****			T.	****		00		***			T
hatcher	Gila	****	****	****			****											***	****	****						****		. 03		****			0.
ombstone	San Pedro																		****						. 07					****			0.
ruxton	Colorado																									T.			T.				T
uba	Little Colo-																										T.				****		T
terrore.	orado.																								-	m							-
ucson	Santa Cruz																								T.	T.		****					T
ucson (1)	do																											****			***		0.
ucson (2)	do																								T.								T
ail	do																									. 60							0.
ainut Grove	Hassayampa																																0.
ickenburg	do																																0.
illeox	Desert																																
illiams	Colorado		T.																														T
inslow	Little Colo-																										1011				7 7 7 7		
	rado.																								-								
uma	Colorado																																0,6
uma (1)	do										****	****		1011		****	****	****	****			****			2000					****	****		0.
Nevada.					1																				***				1				
liente	Colorado													*					T.											0.5			0
																							****		****					.00			0.
	do	****			****				****	****				****		****		****		***	****	* * * *	×××*	****	****	****	****	***		T.			T
ogan	do												****								****												0.

^{*} Precipitation included in that of the next measurement.

‡ Separate dates of falls not recorded.

|| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

Table 3.—Maximum and minimum temperatures at selected stations for May, 1913. District No. 9, Colorado Valley:

		Wyo	ming.						Colors	ado.									Uta	h.					1	New M	fexico.	
Date.	Dan	iel.	Gre Riv		Dura	ngo.	Gra June		Gunn	ison.	Mee	ker.	Steam	nboat ngs.	Eme	ery.	Hi	te.	Моє	ıb.	St. Ge	eorge.	Ver	nal.	Bloo		Fo Bay	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.																				
1 2 3 4 5	43 39 45 59 57	26 34 10 29 23	44 46 55 61 67	34 30 25 36 31	64 52 56 68 71	34 35 34 28 35	71 52 61 69 76	49 40 35 34 39	69 63 54 62 66	27 17 17 14 21	68 50 53 63 79	40 33 24 19 25	66 58 54 62 67	29 28 25 19 24	72 70 66 67 73	22 25 23 21 26	72 66 69 79 86	59 44 45 42 47	74 74 67 77 83	57 37 38 33 38	65 67 73 82 88	45 38 33 40 39	66 60 68 77 80	33 29 21 30 29	74 63 64 72 79	34 34 28 25 31	68 65 61 68 74	40 39 32 34 39
6 7 8 9	64 66 67 68 69	22 26 26 23 26	74 75 76 80 70	31 45 44 42 43	74 72 72 74 75	35 41 42 35 37	80 82 77 81 82	46 52 59 50 50	70 68 69 79 71	19 25 39 29 24	75 79 77 73 76	30 31 39 33 31	70 71 69 72 71	24 26 28 32 28	70 75 74 77 80	21 25 28 35 32	89 89 86 87 88	47 51 58 49 54	89 89 86 89 88	60 47 54 42 50	92 88 86 89 90	43 39 44 45 50	82 85 84 85 84	30 29 30 31 30	83 84 80 81 83	31 43 42 33 36	77 79 74 77 78	40 52 41 43 46
1 2 3 4	64 65 57 54 53	31 33 30 25 27	75 59 59 64 71	43 43 31 29 42	76 75 66 61 67	37 37 38 31 30	80 84 76 66 74	47 56 49 44 44	74 75 64 59 61	25 24 26 31 21	74 76 77 61 65	33 29 30 35 23	72 74 68 66 62	28 26 33 31 21	78 73 75 73 78	31 32 31 30 31	88 90 81 76 82	60 54 66 52 47	88 87 82 74 82	47 47 60 44 39	90 86 89 81 89	51 62 40 37 37	85 85 84 85 84	30 31 28 30 28	82 84 77 69 74	38 37 42 30 26	79 79 76 70 73	49 49 43 41 40
6 7 8 9	55 62 67 61 54	23 42 38 33 24	61 75 64 51 61	45 41 40 36 31	74 74 74 66 67	34 38 36 44 31	80 81 83 68 67	50 53 56 45 42	69 70 71 61 61	25 31 27 33 19	67 72 75 66 54	45 39 43 34 32	73 69 74 64 55	31 42 32 34 34	75 71 76 80 81	32 30 31 32 35	89 90 87 74 81	59 58 65 65 48	88 90 87 68 76	48 50 56 53 38	91 92 83 82 86	39 51 57 50 42	85 84 92 90 89	31 29 53 32 30	81 86 84 76 72	32 39 41 49 29	76 79 79 75 75	41 41 41 41 41
1 2 3 4 5	58 70 75 71 70	29 27 34 33 40	68 77 81 82 85	33 32 38 42 42	73 78 83 80 79	41 40 42 43 44	75 82 88 87 87	42 50 53 56 53	68 75 79 70 72	25 23 27 29 32	65 74 79 78 79	32 30 34 40 39	62 74 79 76 72	35 26 29 36 38	80 79 83 83 81	32 35 37 38 39	88 93 97 95 94	59 58 55 58 74	83 90 97 96 95	48 44 46 54 54	93 97 97 96 96	48 52 50 56 59	87 91 90 94 94	29 32 32 34 32	81 85 89 89 86	41 37 41 43 47	80 83 80 83 82	4: 5: 5: 5: 5: 5:
26 27 28 29 31	79 74 73 69 69 75	32 32 34 43 42 39	80 80 81 79 82 83	45 48 51 50 49 42	82 75 78 78 81 82	44 46 44 41 38 39	90 79 87 84 86 88	60 64 57 59 50 58	78 70 76 78 76 80	37 41 39 38 29 37	81 74 79 80 81 80	42 44 40 39 35 39	79 75 73 82 80 81	34 35 35 38 35 35	79 80 71 81 82 80	48 47 43 45 41 42	97 92 94 85 91 93	59 69 69 63 53 54	97 92 93 87 91 94	52 63 61 59 46 49	97 92 83 75 85 91	59 58 57 44 43 47	95 96 106 105 101 90	35 36 39 37 35 32	92 78 84 84 87 91	45 55 52 41 45 40	85 82 84 80 81 83	56 55 54 44 44
Ins	63.0	30.2	69.7	39.2	72.5	37.9	78.2	49.7	69.6	27.5	71.9	34.3	70.0	30.7	76.2	32.9	86.1	56. 2	85. 6	48.8	86.7	46. 9	86.5	30.9	80.1	38.3	76.9	45.

Date.	Arizona.															Term laza						
	Bisbee.		Flagstaff.		Fort Apache.§§		Grand Canyon.		Parker.		Phoenix.		Prescott.		St. Michaels.		Tueson.		Yuma.		Logan, Nev.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1 2 3	77 76 78	46 38 43	51 48 51	32 21 18	70 61 61	27 29 28	80 64 66	22 20 21	82 82 85	40 40 43	73 73 77	54 46 48	57 54 58	35 26 23	62 55 52	50 27 31	79 72 72	54 41 44	74 82 86	51 47 50	70 72 79	44
5	78 74	47	64 70	20 23	71 81	31 36	70 70	24 26	93 96	52 50	82 91	50 52	69 78	27 33	64 74	23 30	79 90	38 41	91 96	50 55	88 94	4
6	71 73 74 80 82	44 40 53 50 52	70 67 65 69 69	30 29 27 29 31	82 81 78 81 83	39 36 35 37 38	72 74 76 76 78	28 30 32 34 34	99 98 94 98 98	58 56 54 54 56	94 89 87 89 92	56 56 57 57 56	78 72 69 75 76	35 35 34 36 35	73 75 70 74 74	32 34 33 34 37	95 91 87 91 93	48 48 51 50 50	98 93 92 95 97	57 55 56 58 58	95 90 90 92 92	41 41 41 41 5
1	83 77 81 75 80	55 47 50 47 50	71 68 62 63 66	29 31 32 23 25	84 81 75 75 78	36 39 33 32 35	78 80 78 80 80	36 34 34 34 36	99 98 98 97 98	61 57 49 52 55	93 92 85 86 88	58 60 61 53 55	77 74 69 69 73	37 37 43 30 32	76 75 67 63 67	35 41 38 32 27	93 90 87 84 88	51 56 54 49 48	100 96 90 94 96	57 58 58 55 55	93 88 84 81 90	4 5 5 4 4
5	78 80 81 80 79	43 50 52 56 49	70 71 67 64 69	29 35 42 41 30	81 84 82 76 80	37 40 37 37 40	80 82 80 78 80	36 34 36 36 36	99 100 95 95 96	56 57 58 58 56	91 94 93 85 89	55 57 60 59 57	77 79 77 73 78	36 40 37 41 39	74 76 75 70 70	32 44 38 39 31	92 92 92 88 89	49 53 52 53 53	97 97 92 89 93	57 58 59 62 57	94 94 89 90 96	5 5 4 4
2 3. 4.	82 86 88 86 81	54 58 62 62 53	71 78 75 75 74	37 37 38 45 39	83 90 90 89 95	44 47 57 58 48	78 80 80 82 81	34 34 36 36 38	99 100 98 103 101	58 58 61 63 67	91 96 98 94 98	60 64 65 67 72	81 85 85 80 82	42 45 45 52 47	76 80 83 81 77	38 38 44 50 49	93 96 101 95 93	53 55 57 70 70	95 99 99 97 98	56 59 62 63 62	99 99 96 100 100	4 4 5 6 5
6	85 85 84 82 82 84	55 50 55 54 53 53	76 74 68 61 68 71	43 40 37 37 26 29	90 94 86 79 83 90	52 51 40 37 40 45	82 82 82 84 85 85	38 36 30 34 32 30	102 99 85 89 90 100	61 62 49 51 58 58	99 95 89 82 89 96	67 65 64 55 55 59	78 74 73 70 75 81	48 44 51 32 33 36	84 75 80 75 79 81	42 47 44 38 36 39	98 99 95 87 93 95	59 61 58 52 50 51	95 95 80 86 94 94	67 60 58 54 55 56	98 95 86 74 87 93	5 6 4 4 8
Mean	80.2	50.6	67.3	31.8	81.1	39.4	78.2	32.5	95.7	55.1	89.4	58.1	74.1	37.6	72.8	37.2	90.0	52. 2	92.9	56.9	89.9	49.

^{*,} b, e, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

§§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

DISTRICT NO. 10, GREAT BASIN.

ALFRED H. THIESSEN, Section Director.

GENERAL SUMMARY.

Favorable conditions prevailed generally throughout the whole month of May, 1913. There was a small excess in temperatures, which was beneficial, and a deficiency in precipitation, which, however, was not harmful. In the Utah area there were some frosts during the forepart of the month and ice occurred in the mountain districts. The frost did a great deal of damage, though several communities reported no losses.

The average number of rainy days was 3, clear days 14, partly cloudy days 10, and cloudy days 7.

TEMPERATURE.

For the district as a whole the temperature for the month of May averaged 55.9°, which is 1.3° below normal. The local mean temperatures ranged from 43.7° at Woodruff, Utah, to 71.° at Jean, Nev., but the means at the majority of stations averaged between 50° and 60°. Almost all stations reported averages above normal. The lowest means occurred in the Idaho and Wyoming areas, and the highest in the Utah and southern portion of the Nevada areas.

Deficiencies in temperature occurred at a few scattered stations both in the Utah and Nevada areas, while excesses which were not large were the rule. The greatest local deficiency was 3.9° at Woodruff, Utah, where the mean was 43.7°; and the greatest excess was 5.6° at Burns, Oreg., where the mean was 54.4°.

The forepart of the month was cool, while the latter part was warm. The lowest temperatures occurred on the 1st, 2d, and 3d, and on those days ranged from 5° at Tecoma, Nev., to 35° at Midlake, Utah, and Lahontan, Nev. After the 3d a change to warmer set in, but the temperature rose slowly until the beginning of the last decade, which was the warmest of the month, the temperatures averaging above normal.

The highest temperatures occurred on various dates from the 22d to the end of the month, but generally on the 24th, 25th, and 26th. The highest temperatures for the month in the respective States or parts of States were: 86° on the 28th at Cokeville, Wyo.; 92° on the 31st at Grace, Idaho; 107° on the 26th at Midvale, Utah; 98° on the 22d at Jean, Nev.; 89° on the 26th at Burns, Oreg., and 74° on the 16th at Bridgeport and on the 24th at Tahoe,

PRECIPITATION.

The precipitation for the district averaged 0.96 inch, which is 0.38 inch below normal. The precipitation chart shows quite heavy amounts in the northern portion of the Utah and western portion of the Nevada area, but in the former section all the amounts were below normal.

In the Nevada area the rainfall for the month was the heaviest May rainfall since 1906. In the Utah area only one-half the normal fell. While no droughty conditions developed, moisture was badly needed at the close of the month, the creeks having fallen rapidly despite the warm weather's effect on the mountain snow after the 15th.

Light showers fell on the 1st and 2d in the extreme northeastern portion of the district. Showers began again on the 6th in the Oregon and California areas, becoming somewhat general on the 13th in Utah, and again on the 18th with scattered showers on adjacent dates. In the Oregon, Nevada, and California areas, rain was heaviest during the last five days of the month, but light in other parts of the district. On the 27th thunderstorms occurred at many stations, and lightning struck the Government telephone and power line at Spanish Fork, Utah, doing damage to some electrical equipment, and a team was reported killed by lightning a mile distant from that place.

SNOW SURVEY OF BIG COTTONWOOD WATERSHED.

By H. K. Burton, Assistant Engineer, assisted by W. A. RICHMOND.

During the month of April, 1913, a snow survey was made of Big Cottonwood Canyon. The party, consisting of five men and a team, with complete equipment for two parties, left the city April 23, returning May 3.

The objects of the survey were to determine the depth and density of the snow in the main forks of the canyon, the approximate surface supply at the beginning of the melting season, the physical condition of the snow, and the condition of the ground surface beneath the snow layer.

The information thus obtained will be of relative value for this year only, as we have but the survey of 1912 for comparison, and the conditions this year differ greatly from what were found then.

The observations should be continued for several years in order to get data for the reliable calculation of the available water supply.

From the first camp at Maxfield Lodge trips were made to the head of Broads Fork; Mill B, South Fork; and Mineral Fork. At frequent intervals soundings of depth were taken by means of a graduated steel-pointed rod.

At representative points measurements were made of the depth and density of the snow by the use of graduated galvanized-iron tubes, one set being 2 inches and the other 3 inches in diameter. The density determination consisted of weighing the tube and the inclosed core of snow on a spring balance so graduated that the equivalent in inches of water could be read off directly.

The second camp was made at the United States planting station, where trips were made to the head of Mill D, South Fork; Mill D, North Fork; Days Fork; Silver Fork; and Willow Patch Fork.

The third camp was made at Brighton, from which Mill F, East Fork; Brighton Basin; and the head of Mill F, South Fork, were thoroughly covered.

In addition to the numerous soundings of depth there were 120 density measurements made throughout the main canyon and various forks. The measurements were made at elevations ranging from 6,300 to 9,600 feet, and the depth of snow varied from 1 to 9 feet.

The following table gives the number of soundings, average depth, water equivalent, density, acre-feet, and square miles for each of the forks, and from these data the conditions in Bear Trap Fork and the north side of the canyon from Mill B, North Fork, to Willow Patch, where the snow lay in patches, were estimated:

Location.	Elevation.	Num- ber of sound- ings.	8	er- ge oth.	Water equiv- alent.	Per cent densi- ty.	Acrefeet.	Square miles.
	Feet.		Ft.	In.	Inches.			
Broads Fork	6,300-9,600	10	3	8	17, 41	37. 0	1,952.7	2.1
Mill B, South Fork	6,640-9,050	13 8 20 9	4	1	14.05		2, 158. 1	2.4
Mineral Fork	6,880-8,530	8	3 3	4	14.70	36. 1		1.9
Mill D. South Fork	7,075-9,400	20	3	9	18.78	38.8	5, 178, 3	5.13
Mill D, North Fork	7,320-8,600	9	3	4		34.0	1,679.1	
Days Fork	7,470-8,940	10	4	8	22.05	38. 9		
Silver Fork	7,700-9,500		4 3	1	18, 46	38.9		
Willow Patch Fork	7,750-8,850		3	6	14.80	38. 4		
Mill F, East Fork	8, 150-9, 250	8	5	1	23. 11	38. 2	1,472.2	1.6
Main Canyon and								
Brighton Basin	8,700-9,540		5	. 4			8, 486. 3	
Bear Trap Fork	7,550-8,750	0	3	5	15.33	37.4	1,528.7	2.10
Willow Patch	6,700-9,000	0	8	0	13. 46	37. 4	1,433.6	2.0
Total		120					31,705.1	32. 4
Average			3	11	18.34	37. 4		
					12.26		31,705.1	48.5
Over total watershed for 1912					21.5			

The water equivalent is 12.26 inches for the total watershed of 48.5 square miles.

The water equivalent for the entire watershed for 1912 was 21.5 inches.

From information gathered from residents of the canyon, the snowfall was unusually light this year, most of it coming in February and March. This late snow is already going very fast in the lower portions of the canyon. At the head of the various forks and around the higher lakes the difference in the snowfall was not so great, being about 80 per cent of what was found there last year. The snow was well packed and the ground in good condition to receive the water.

The north face of the main canyon from the mouth of Mill D, North Fork, was practically bare. Above Mill D north the snow increased in depth to 3 feet 4 inches at the Brighton Hotel.

Along the bottom of the canyon six slides had come down across the road between Mill B, South Fork, and the Maxfield mine, but the first snow in place was found at Argenta, where it appeared in patches, increasing to the forestry station, at which point the snow was about 1 foot deep.

In all of the south forks the usual conditions of snowslides were found, where the snow had slid off the precipitous sides of the canyons, packing solidly in the bottom of the gulches. The general conditions would indicate that there will be no high water this spring.

The snow in the higher portions of the watershed, being well packed, should come off more slowly, and the ground being in good condition to receive and hold the water, it will help our late summer supply to some extent, but

the general conditions would indicate a lower flow during the late summer than we had last year.

SNOW SURVEY ON POLE CREEK WATERSHED, SAN-PETE COUNTY, UTAH.

By B. F. Eliason, Cooperative Observer, Moroni, Utah.

The area covered by the Pole Canyon snow survey was more limited than last year, but the survey was more thoroughly done, because last season only a measuring stick was used, while this year a snow density tube, Weather Bureau pattern, was used in addition.

The work was done April 14, this year, and last year on April 29. Where the snow measured 18 inches last year, this year it measured 15 inches, equaling 4.1 inches of water, or a density of 27 per cent. This was due to the very saturated condition of the snow, the day being clear and abnormally warm. The snow was solidly crusted last year, but this year it was soft, breaking under the weight of my dog, or even smaller animals.

Following the old road up the wash or canyon from here, the conditions were practically the same as last year. The snow increased with elevation, and the layer was heavier on the shady slopes than elsewhere. The outfit was heavier and more cumbersome than last year, so I did not deploy from Pole Creek. The course this year from the left-hand fork of Pole Creek was due north to Jack's Springs, across the bare side, which last year was covered with snow.

The snow in the vicinity of Jack's Springs averaged 33.6 inches from a series of 12 measurements, and contained 10.4 inches of water, whereas last year there was only 5.2 inches of snow. From this point to the head of right-hand fork of Pole the snow was practically the same as that at Jack's Springs, averaging 33.8 inches, with a water equivalent of 10.7 inches. Last year there was about 40 inches of snow in this region. Monument Peak and the Birch Creek drainage area were not visited, but on the return trip the flat below the lake at the junction of the lake water with that from the west and Jack's Springs was visited, and I found the snow 28 inches deep, carrying 8.7 inches of water, while last year there was 40 inches of snow there.

The snow on Dutchman's Flat measured 26 inches and contained 7.8 inches of water. Last year it was 28 inches deep and quite solid as it faced the sun. This snow gives us our earliest water, and is therefore important, as the later snow is lost by seepage and evaporation.

Dry Lake Flat, 500 yards west of here, carried snow to the depth of 31.5 inches, and contained 9.5 inches of water. The lake, which is dry during the summer, was partly full at the time of the visit. The route then took a course west up the left-hand fork of Pole Creek. Here the snow was 28 inches deep, with 9 inches of water, while last year it was 32 inches deep.

The trip was a success as a help in the future, standardizing of our farm operations as governed by the water supply. The snow tube and balance were much superior to the measuring stick alone as used last year. This year the actual water equivalent of the snow layer was obtained.

Table 1.—Climatological data for May, 1913. District No. 10, Great Basin.

Ent, Invent			year	Temp	erature	, in (1egre	es Fab			Prec	ipitation	, in inc		y days,		Sky.		direc-	THE THE PARTY
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	F :	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind tion.	Observers.
Wyoming.						-									0		10	14	w	S. W. Condens
orderokeville	Lincoln		11 3	49.7	+ 2.7	80 86	26 28	15 13	3	44 52	$0.66 \\ 0.42$	- 0.79	0.41	1.5	5 4	23	13	14	W.	S. W. Condron. E. J. Tuckett.
vanston	Uinta		17		+ 2.3	78a	26	14a	2	41a	0.42	- 1.25	0.28	2.0	4	21	8	2	W.	Frank Tucker.
Idaho.																				
eneva	Bear Lake		4							F.0.	0.51		0.14	т.	7 4	19 11	10	2 12	n.	F. W. Boehme. E. W. Joy.
race	Bannock Bear Lake	5,946	18	55.2 51.0	+ 1.6	92 78	31	22 26	2† 1†		0.79	********			6	26 16	8 5 3	0 12	SW.	John Norton. Wm. T. Chatterton.
Veston	Franklin	4,460	14	55.4	+ 3.0	87	26	21	3	46	1.16	- 1.05	0.56	T.	0	10	0	12	0.	wm. 1. Chatterton.
Utah.															1					
lpine	Utah	4,900	14								0.45	- 1.97	0.45	0	1	19	7			T. F. Carlisle. M. J. Shelton.
eaverlack Rock	Beaver	4,872	9							94	1 07		1 99		10					
righam City	Boxelder		2	60.3		89 78	28 24	32 19	27	34 51	1.87 0.02			0.2	2					. F. R. Curtis.
astle Rock	Summit	6, 244	8	57.84		82	25	25	3	40	0.43		0.20	1.0	5 3	15 23	2	6		
edar Cityenter	Iron Tooele	4,250	2	55.6		88	26	19	3	47	0.24		0.10	0	3	12 12	13 10		8.	L. C. Peterson. W. J. Griffiths.
larkston	Cache		43	56.6	- 3.6	87	26	25	3†	46	1.10	- 0.16	$0.40 \\ 1.05$	T.	2	13	4	14		. A. C. Murphy.
orrine	Millard	4,541	18	59.0	+ 3.1	91	25	21	3	48	0.08	- 0.16 - 1.08 - 0.71	$0.08 \\ 0.22$	T.	1 4	18	6 12	6	8.	S. W. Western. D. C. Walkey.
lberta		4,650	11 7		+ 3.5	92	26	23		160										John Day.
rekson	Tooele	. 4,850	1 12	en e		88	27	300	19	44	0.67	- 2.21	0.45	2.5	3	200	5.		sw.	N. W. Erekson. Charles Boylin.
armingtonillmore	Davis	5, 100	21	61.2	$+5.0 \\ +3.8$	90	23	27	3	44	0.49	- 1.26	0.48	0	2	0	22		s.	J. J. Starley. Heber C. Cutler.
arland	Boxelder		1 9	57.5		89	26 25	24 26	5	40	1.16 0.50		0.72	0	6	72	110	68	8.	E. M. Smith.
overnment Creek	Tooele	. 5,277	12	56.2	+ 3.2	87	26	22	3	39	0.82		0.33	2.0	5	20	7	4	5.	Walter James. George E. Greene.
rangerrantsville	Salt Lake		6			88	27	28	3	38	0.63		0.40	0	2	13	16	2	nw.	Monto Barrus.
rouse Creek	Boxelder	. 5, 148	3			00	05	15		50	1.45	_ 1 30	0.84	0	6 2	17	8	17	SW.	Philip Paskett. John Crook.
eberenefer		. 5,301	13	52.8	+0.7 + 1.9	86	25 24	15	3		0.42	- 1.30 - 1.52	0.30		4		13	7	w.	William Brewer. T. M. Jones.
ooper	Weber	. 4,436	2 2																	. John J. Watson.
oexosepa	Tooele	. 4,356	2				26	25	3		0.71		0.50	т.	3 2		14	11	n.	Geo. K. Hubbell. Gladys Mikesell.
osepaoyunction	Juab Piute	5,000				. 89	22	26	3	45	T.		T.	0	0	13	18		S.	Joseph Jensen.
anosh	Millard	. 5,250	6	EE 0	9.5	90	25	17	3	48	0.51	- 0.14	0.47	0			27	4	ne.	George Crane. F. W. Klock.
emay	do	4, 221	3	67.6		. 90	31	50	18	32	0.75		0.60		. 2	12	12		3. SW.	Agent S. P. Co. William Brown.
evanogan	Juab			56.8	+ 2.5 + 3.1	85 83	24	30	3 2	† 31		- 1.12	0.14	1.3	. 5					Utah Experiment Stat
ow	Tooele	4,602	2	63.2			26	· 31	2	42	0.50		0.25	T.	2	24	5	2		
ucin	Boxelder	. 5,575	18	57.0	+ 1.2	83	23	24	3	39	0.56		0.34		. 5		10			J. M. Anderson.
laple Creek	Utan	4,890	2								0.97		0.45	0	4	14				Jas. Woolstenhulme.
IarionIarysvale	Pinte	. 6, 180	13							41	0.55	1 21	0.30	T.	3	18	4	9		Lafe King. J. S. Moffat.
leadowville	. Rich	6,200 4,235	12	60.5	+ 3.6		26		1	18	0.55		0.75	0	1	15	14	2	e.	S. M. Gibson.
fidvale	Salt Lake	4,365	1	63.0		. 107	26			56	0.09		0.08	0	2	9	16	6	8.	M. J. Joy Agent Salt Lake Route
filford	Beaver	4,962	1								0.08						22	5	sw.	George McCune. Fred Yeates.
fillville	Cache Beaver		18		-						1.32	- 0.98 - 0.87	$0.78 \\ 0.25$	0	2	12	18	1	SW.	George Roberts.
finersvillefodena	Iron	5, 479	12	54. 4			26	28 20	14		0.84		0.36		3		12	5	W.	U. S. Weather Bureau E. O. Kingston.
forgan						. 84	25	23	3	38	0.29		. 0.23	T.	2				SW.	B. F. Eliason.
fosida	Utah	4,510	1	61.4		. 98	28	26	4	48	0. 15		. 0. 10	0	2	10	0	21		L. B. Curtis. S. Boswell.
Tephi (near)		5, 150	1								0.45		0.33	0	3					T. W. Jones. Peter Nielson.
ak City	Millard	4,900			- 4.6	89	26	27	3	41	0. 97	- 0.85	0.67	T.	4	19				A. Van De Graaff.
ogdenogden	. Garfield	6,560	1	48.0	a	. 79	22	15	3	51	0.02		0.01	0	2	27	a 3			Harry L. Stremble. Gertrude Evans.
Park City	Summit	7,800 5,200				. 82	26	30	1	40	0.00		. 0.63	0	4	15	9	7	SW.	C. B. Hasting. Alex Matheson.
arowan	. Iron	5,970	22	56. 6	+ 1.0	84	21	25	3	41	0.35		0.20		3 3	10	12	9 3		D. L. Coombs.
Payson Pelican Point	Utahdo					-														D. L. Coombs. B. M. Mendenhall.
ine Cliff Ranch	. Summit	8,250) 2		+ 1.2	80	26	16	3	51	0.54	- 0.41	0.35		4	21	8	2	S.	L. E. Leavitt. J. H. Harrison.
intoromontory		4,913	38								. 1.86		. 1.21	(2 2			2		Jamer A. Oliver.
rovo	. Utah				+ 0.3	91	24	† 21	3	53	0.25	- 1.55								Wm. Rex.
andolph		5,066	3 2								. 0.46		. 0.35	0	3					E. L. Terry. Joseph Jensen.
evier	Sevier	5,350 4,529									1.79		0.85		8					J. R. Thompson.
ahara	. Iron	5, 209)	. 57.2		. 88	26 27	† 26 33			0.40		0.20		. 2	24			SW.	Earl Markwith. E. J. Bench.
altairalt Lake City	do	4,360	39	60.8	+ 2.5	89	26	34	3	30	0.57	- 1.38	0.47	T.	4	17			nw.	U. S. Weather Bureat Thos. Memmott.
eipio	. Millaru	5,260	18	57.0	+ 3.7	87	23	17	14				0.40		3	12				Richard Ilgner.
showell	. Juab	6, 127	7 3										0.30		1					J. L. Stark. V. Waddoups.
myths	Beaver Utah	4,900			- 1.7	78	25	12			0.30	-0.30	0.33		. 3				. w.	Geo. A. Boyd.
soldier Summit panish Fork	do	4,585	1	54.2		. 86	23	1 20	19	1 53	1. 32		0.64							Reclamation Service.
Strawberry Tunnel, W	do	7,500 5,075		48.2	+ 0.4	. 76 92	31 24	19	3	58	0.60	- 0.61			2	13	11	8	9.	John Thorgierson.
Pooele	Tooele	4,900				84	26 26	29 26) 2		1.00	- 1.41	0.56		. 3	3	7	21	e.	E. A. Bonelli. Paul Heitz.

Table 1.—Climatological data for May, 1913. District No. 10, Great Basin—Continued.

			rears	Temp	perature	, in	degre	es Fah	renh	eit.	Prec	ipitation	, in in	ches.	lays,		Sky.		direc	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	1	G.eatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy da 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind c	Observers.
Utah-Continued.																				
Utah Lake Pmpg. Sta	Utah	4,500	5	59.2		85	23†	24	2	37	0.39		0.31	T.	4	15	9	7		W. A. Knight.
Vernon	Tooele	5,500	1	29 4		·		97		34	0.61		0.35	T.	4 2	16	13	2	sw.	Glynn Bennion.
Wendover	do	4, 237	2	63.4		91	25	37	4	34	T.		T.	0	0					J. S. Cooper. Geo. Stevens.
Whiskey Creek	Garfield										0.03		0.02		2					Rollo Adair.
Winder Woodruff	Rich	6,500	10	43.71	- 3.9	79	26	6	2	60	0.65	- 0.57	0.35	0	2	111	71	51	sw.	A. L. Eastman.
																				19 29 20 20 20 20 20 20 20 20 20 20 20 20 20
Nevada.													1 7				-		DES.	State St. St. St. St. St. St. St.
Austin	Lander	6,594	24					10		***		0.94	0.15			09			******	F. O. Booe.
Battle Mountain	Eureka	4, 905	42	58.3	+ 1.0	91	24†	18	1	51	0.41	- 0.34	0. 15	0	3	23 15	9	7	nw.	Southern Pacific Co.
Beowawe	Elko	5,232	42	55.58	+ 2.4	908		110	2	57s	1.55	+ 0.91	0.50	0	6	10				Do.
herry Creek	White Pine	6, 450	5	54.0		83	25	18	2 2	40	1.66		0.58	0.5	8	12	10	9	w.	J. H. Leishman,
Cherry Creek	Elko Esmeralda	6,000	12																	I. F. Wiseman.
olumbia	Esmeralda	5,750	6	56.5		86	23†	23	2 2	41	1.80		1.02	0	5	19	8	4	se.	A. Booth.
Dry Farm	Elko	5,600	1	54.2		85	9	21	2	41	1.26		0.89	0	4					Walfrid Sohlman.
31ko	do	5, 432 6, 500	42 15	51.0	- 3.0 + 2.5 + 2.8 + 0.1 + 1.7	94 83	25	8 15	2 2 2 2 1†	63 43	1.27	+ 0.48	0.80	1.0	3	21	10	8	nw.	Western Pacific Co.
Eureka	Eureka Churchill	3,965	19	50.4	+ 2.5	91	25†	21	2	44	9. 15	+ 1.65	1.71	1.0	3	7 12	16	3	8. W.	Clay Simms.
Pallon	Lyon	4, 200	40	58.7	1 0 1	91	22	21	9	52	3 34	+ 1.43 + 2.87	2.20	0	3	21	10	0	w.	U. S. Experiment Station. Mrs. G. A. Steele.
Fernley	Douglas	4,830	22	54.8	+ 1.7	92 83	25	25 21	Ĩ+	44	1.20	+ 0.53	0, 66	0	3	19	6	6	nw.	Forest Service.
lerlach	Washoe	3,931	0		,						0.70		0.40	0	2	18	0	13	nw.	Western Pacific Co.
Jeyser	Lincoln	6,055	9																	Mrs. J. F. Wambolt.
Glenbrook	Douglas	6,240	4																	C. C. Henningsen.
Golconda	Humboldt	4,697	34	59.2	+ 2.6	96	27	21	2	50	0.75	- 0.05	0.40	0	2	7	15	9	w.	Southern Pacific Co.
Halleck	Elko	5,631	20																	Do.
ean	Clark Churchill	2,074 4,200	5	71.0 61.7		98 94	22	42	5†	51	$0.00 \\ 2.17$		0.00	0		26	13	0 2	nw.	Salt Lake Route. U. S. Reclamation Service
Lewers Ranch	Washoe	5,500	25	54.0	+ 0.9	99	20	30	1+	41		+ 0.45	1.35	0		16	23	5	w.	Ross Lewers.
Lida	Esmeralda	6,037	0	54.2	+ 0.8	83 82	20	35 23 23	2	37	2. 13	+ 0.40	1.50	0	5	24	3		30.	L. F. Detwiler.
Lovelock	Humboldt	3,977	19	58.0	- 2.0	94	25 25 23 26	22	ĩ			+ 1.38	0.62	0	4	15	9	4 7	sw.	A. P. Tilford.
McDermit	do	4,700	23			88	24	22 21	1+		0.87	- 0.79	0.57	0				1	SW.	Scott Sterling.
MeGill	White Pine	6,338	22	54.5	+ 3.8	82	24†	15	3	45	0.78	- 0.78	0.42	0.2	4	13	13	5	8.	R. E. Middagh.
Metropolis	Elko		0	53.4		88	26	16	2	48	0.96		0.67	0						O. W. Lloyd.
Millett	Nye	6,002	5	54.6		85	19†	19	1	48	1.72		1.02	0		10	12	9	W.	Fred J. Jones.
Mina	Nye Mineral Esmeralda	4,600	6	59.9		96	25 24	19 27 24	2	45	1.59		0.70	0		17	2	12		Southern Pacific Co.
Oasis Ranch	Esmeralda	5, 106	20	60.8		92 83	23	24 16	2 2 3	54 49	1.83	1 0 22	1.35	0		22 7	3 4	20	8.	A. S. Patterson. Miss Mamie Potts.
Potts Quinn River Ranch	Nye. Humboldt	4,850	111	58 24	-3.6 + 5.2	910	26	200	14	540	1. 18	+ 2.33 + 0.74	0.84	0				20	s. n.	F. M. Payne.
Rebel Creek	do	4,000	1	56.4	+ 0.2	93	26	21	3	49	0. 91	7 0.14	0.33	0		13	10	8	SW.	E. J. Hyatt.
Reno	do	4,532	42	56.5	+ 2.9	86	25	27	3 2	39	1.00		0.55	T.	7	14	12	5	W.	U. S. Weather Bureau.
oda Lake	Churchill	4,534	6	59.0		90 87	25 24	27	11	40	2.07		1.53	0	5	12	16	3	nw.	U. S. Reclamation Service
l'ecoma	Elko	4,812	35	51.8	- 3.4	87	261	27 5 22	1	60	1.02	+ 0.33	0.52	0	5	6	16	9	W.	Southern Pacific Co.
Tonopah	Nye	6,090	8	56.0		81	24	22	1	34			0.86	0	6	17	13	1	nw.	U. S. Weather Bureau.
Wells	Elko Humboldt	5,631	41	54.4	+ 1.2 + 2.6	85 90	25 26	11	1	48	0.90	- 0.02	0.40	0		13	12 14	6		Southern Pacific Co.
Winnemucca	numboldt	4, 432	34	57.0	+ 2.0	90	20	20	1	44	0.45	- 0.58	0.35	0.2	9	10	14	7	SW.	U. S. Weather Bureau.
Oregon.															1		1	+	1	
Burns	Harney	4, 157	22	54.4	+ 5.6	89	26	26	10	47	0.25	- 0.54	0. 12	0	3	14	10	7	w.	J. C. Welcome, Jr.
liff	Lake	4,300	6	48.9	, 0.0	85	26	10	1	53	0.85		0.58	0		6	17	8	nw.	John C. Green.
Paisley	do	4,500	10																	C. M. Sain.
Silver Lake	do	4,700	16	51.4	+ 2.6	85	26†	15	3	50	0.96	- 0.27	0.45	0	5	12	17	2	sw.	G. W. Marvin.
California.																				The section of the se
Bridgeport	Mono	6,500	0	49.0		74	16	14	3	53	1.59		0, 40	0	6	11	11	9	sw.	A. F. Scott.
Cathedral Park	Eldorado	6,400	0			72	2+	30	24	42	0, 44		20.00	0		15	7	9	S.	Carl Fluegge.
Tahoe	Placer	6,240	2	45.0			24	16	2†	45	1.66			. 0		24	4	3	W.	R. M. Watson.
Truckee	Nevada	5,819	41				1		1	1		1	1			1		1	1	Southern Pacific Co.

<sup>a, b, e, etc., indicate respectively 1, 2, 3, etc., days missing from the record.
** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.
† Also on other dates.
T. Precipitation is less than 0.01 inch rain or melted snow.</sup>

Table 2.—Daily precipitation for May, 1913. District No. 10, Great Basin,

Station	Wetanhad														- 1	Day	of m	onth	١.														
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total.
Wyoming.																																	
Border	Bear							· · · ·						· · · ·		· · · ·		····	. 25	. 41	T.				T.		m.	T		· · · ·			0.6
Cokeville Evanston	do	. 28						T.						T. T.		Т.	T.	. 06	.08		1.				1.		1.	1.		Т.	. 12		0.4
Idaho.																																	0
Geneva	Bear	. 05	. 11								. 14								. 03	. 09											. 02	. 07	0.5
Grace	do	T.																	. 30	. 25													0.7
Paris Weston	do	. 05																	. 21	.56	. 15											****	1.1
Utah.																																	
Alpine	Gt. Salt Lake																			. 45													0.4
Black Rock	Sevier Lake.									1																						****	
Brigham	Gt. Salt Lake		. 15											. 06	. 08	. 02				1.38	. 02	. 02									. 06		1.8
Burrville	Sevier Lake. Gt. Salt Lake																	. 05									T.	T.		****		****	0.0
Cedar City	Desert	. 07	. 02						10000		gana.															10000			T.	. 08			0.1
enter	Gt. Salt Lake	. 04						1					.20					Т.	T.	. 10	. 40	****		****		2000		****				****	0.2
orinne	do	T.												. 25					1.05											T.			1.3
Deseret Elberta	Sevier Lake. Gt. Salt Lake	T.						****		****	****			.01					. 08									T.	****	Т.			0.0
Enterprise	Desert																																
Erekson	Gt. Salt Lake	*						0000		30000							т.		. 03	. 45											. 02	****	0.6
Fillmore	Sevier Lake.	. 01																	. 48											T.			0.7
GarlandGarrison	Gt. Salt Lake Sevier Lake.	. 05							1				. 09					. 20	. 72	. 09							. 01			.50	T.		1.1
Government Creek.	Desert	. 33	T.											. 01				T.	T.	. 33	. 05					1000				. 10			0.5
GrangerGrantsville	Gt. Salt Lake	. 40								****	****				****			****		. 23		****		****					* * * *		* * * *	****	
Frouse Creek	Desert						10000	1			T.								. 84	. 10					. 09	. 14							0.6
Heber	Gt. Salt Lake																	T.		. 12							T. T.	T.	T				0.3
Henefer	do																Т.	1.									1.	. 02	Т.	. 00			0.4
bex	Desert																			****		* * * *		2000		9							
osepaov	do	. 16 T.	. 20												****											****					. 20		0.7
unction (near)	Sevier Lake.																			T.							T.	T.					T.
Kanosh Kelton	Gt. Salt Lake	. 04																	*							T							0.5
emay	Desert																		. 60		. 15							T.	T.				0.7
evanogan	Sevier Lake. Gt. SaltLake	. 13											15			T		. 17	. 75	. 14					. 08							T	0.2
ow	Desert	T.					****												T.	. 25										. 25			0.5
Lucin	Sevier Lake.	. 05	.04						****		****								****	.34	04		****	****			T	. 09	****				0.5
Laple Creek	Gt. Salt Lake													. 14				T.		. 24	. 14						T.	T.					0.9
darion	Sevier Lake.																														****	****	
leadowville	Gt. Salt Lake	. 05												T.						. 20	T.								T.		. 30		0.5
lidlake	do	T.											.08			****	****		T.	. 75	T.												0.7
fidvale	Sevier Lake.	.01											.08		****					****			****										0.0
fillville	Gt.Salt Lake													. 18			. 05		. 18								T.	T.		·			1.3
Mills	Sevier Lake.	. 05									****																. 11	T.		T.	****	****	0.0
Iodena	Desert	. 34																	. 14										. 21	. 15			0.8
forgan	Gt. Salt Lake Sevier Lake.	T.	T.				T.		T.				T.	T.			****	T.	T.	.30	T	****		****	****		T.	.06					0.3
fosida	Gt.Salt Lake	. 10																			. 05												0.1
Nephi (near) Newcastle	Desert	.07	.05															****					****	****									0.0
Oak City	Sevier Lake					1																											0.0
ogdenogden	Gt.Salt Lake Sevier Lake.	T.												. 02						. 67	T.						01	. 28					0.9
Park City	Gt.Salt Lake								. 05							. 01																	0.0
Park Valley	Desert do																	10	. 63	. 12				. 20	. 16					.T.			1.1
ayson	Gt.Salt Lake	. 45												. 12				T.	T.	.30									T.				0.8
Pelican Point Pine Cliff Ranch	do																																0.0
into	Desert	. 05																	. 03										.35	. 11			0.5
romontory	Gt.Salt Lake																		. 65											1.21			1.8
rovo Randolph	do		****						****			****	. 05											****									0.0
levier	do													. 05						. 35								. 06					0.4
lichfield	Sevier Lake. Gt.Salt Lake	.31	****		****		****		****		****	****	.16	. 11		.11		.10	95	.03	.03			****	****			****		Т.	****		0.0
ahara	Desert	. 20												T.						T.									. 20	T.			0.4
altairalt Lake City	Gt.Salt Lake	. 05									****			0.7					27								150	T 03					0.4
cipio	Desertdo	T.	. 25				T.							T.						.40				****			. 15						0.8
howellilver City	do														. 06		****		. 45	. 25											****		0.7
myths	do																							. 30					T.				0.3
oldier Summit panish Fork	Gt.Salt Lake	T.												14						.33	T.						.07						0.5
trawberry Tunnel,	do	. 38	.02											. 14				. 01		. 39	. 04			****			T.						0.9
west.						1																			-								0.6
histle	do	. 20			****		****				****			****		****	****	T.	T. T.	. 40					****	****	T.	T.	T.				1.0
remonton	do																		. 26	.80	. 09	. 06											0.3
tah Lake Pump- ing Station.	ob		. 02																	1						-			****				
ernon	Desert													T.				T.	T.	. 35	. 09						T.				10		0.6
Vendover Vhiskey Creek	do		****		****		****	****			****	****		****	****	****			T	.35	****			****				T.					T.
								and the last on																									0.0

Table 2.—Daily precipitation for May, 1913. District No. 10, Great Basin—Continued.

	Watershed.		-												,	Jay (of mo	ntn.													7		
Stations.	watersned.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total
Oregon.																																	
	0 T 3 las		-		1						0.5		00						.07						. 03								0.
a River	S.E.drainage									.09	. 05	. 08	. 20	T.		04		07	.08	06			****		. 15		****	.04					0.
ar Valley	do		****	****						T	T	T	.00	1.		T.	T.		.08						. 10		****	. 12		****			0.
rns Mill	do							02	****	03		01	04			4.	1.	. 15									****		.02			****	0
t-tomore Lake	00			10000	1	1				T.	. 29	. 01					****		. 07									T.	.33				1
	(10			1	1	1					. 10		. 58																T.	. 17			. 0
	(10			1				. 22		T.			T.						. 47									T.	. 56				1
Lader	00								. 02	. 09	. 12	. 20	.21			T.	T.	. 03										. 42					1
4 Doole	(10			1	1	1		T.	T.	.06	. 08	T.	. 42				T.	. 03										. 25					
larr	.(10																																
	00	. UX							. 05		. 10							. 06	. 02									T.	T.				
or Loke	do												. 45						. 06								·	. 14	.02				1
ey Falls	do												. 63	T.					. 53	. 05							T.	1.25	T.				1
California.																									4.5		1						
Caryonnia.	-																		-								0.0		-		-	07	
u	Truckee	10							. 50	T.	T.								. 86				****	****	1.00				.77		T.	.07	
A	East Walker.								. 00										. 40						1.00				.38	.36	37	. 05	
geport	Truckee									.04							****	. 24							****					100	.10		
edral Park	do								****										2.00	30									T.	T.	T.	T.	
parkart Mills	do									.07								. 06										. 01	. 69	.0	. 16		
dy	East Walker.																		.75													. 60	
inney	Truckee																																
kleeville	East Carson.							T.										T.	. 67							T.	. 08	T.			3	. 17	7
lds Ranch	East Walker.						. 19	T.											.37				. 07			T.			. 26			. 13	
er Creek	East Carson.							T.										. 09	. 80								. 10		. 10			. 10	
00	Truckee						T.												1.10										.35		T.	. 13	
ac	do						T.		T.	. 10								T.	1.10								T.	T.	.70		Т.	. 25	5
kee	do																	*									100	30	m		18		
dfords	West Carson.																		1.28	• • • • •							. 10	. 12	T.	1.2	. 10	. 00	1
Nevada.																													1				1
ur	Humboldt																		. 50										1.		.50		
tin	Reese																																
le Mountain	Humboldt																	. 15	. 15													.11	1
wawe	do																																-
in	do													T.					. 35						. 50				0		.4		-
rry Creek	do	. 02	2											T.				. 01	. 58	. 05	. 02		T.				. 04			3	6 .5	.04	14
er Valley	do															****			.10								T.			8 1.0	0 3	1:12	à.
mbia	Desert Humboldt									****	****						****		. 89		T.			T.			T.			0			-
Parm	do																			.00				1.	****				.1	0 .8	0	1	1
eka	do										****		****	T.				T.								T.				4		T.	1
on	Carson													1.				T.	. 12	****				1		1.	T.	.0	2 1. 0	9	1	2 .2	0
ley	Truckee																	T.		****			T.	1		1	T.	6	5 1.5	5	4		i
dnerville	Carson		1				T.												T.								. 4	3	6	6		1	1
ach	Desert																											3				4	0
ser	Humboldt																																
brook	Truckee																																-
onda	Humboldt																		. 35										4	0			
eck	do																																
thorne	Desert		1																1		1												
ton	Humboldt								****										.88				. 04							3	4 .7	D	
	Desert																	****					T.				173	1.7	4 .0	5 .0	4 .2	7 T.	
ontaners Ranch	Carson									****								. 07 T.					1.					1.2	8 .5		. 2	1 1.	•
ers Kanen	Truckee Desert									****		****						T.	1.35		1:::							.2	0 .0	3 1. 8	0 .2	7 9	1
elock	Humboldt		1:::																.02	10000				1		1	T.		6		6		iô
Dermit	do		1	1000														****	****		1					1			6 5	7 .0	2 .0		~
ill	do		2										1		T.				. 42		***	1		***					T		2 .0		
ropolis			1											1					T.	. 67	T.	1		T.	T.				T	T	2		
City					1000			. 20)										. 25									T	0			. T.	
ett	Reese																	. 28							. T.					. 1.0	2	4	12
a	Desert																												3	1 .7	70 .5	8	
th Fork	Humboldt																		. 16								2				1	5 .0	05
is Ranch	Desert							1	1			1					1													1.3	35 .2	2 .2 5 T	:6
s	Reese																		1.5		1	1				T	T.		T	. 3. (00 .2	5 T.	
in River Ranch	Humboldt														2		T.											.0	3 8	141	0	5 . 2	26
el Creek	do							T.		T.				.0	2	T.	T.		.30									0	8 .1	8 T	· T	3	13
O	Truckee						T.											. 13	. 01								0	0 .1	4 .4	1		9 .1	19
e Creek	Humboldt								PE										. 47					T.				e m		0		8	10
tha Lake	West Walker								T.									. 08						T			1	T	. 1.1 06 1.5 00 T	3 T	1	3 .3	70
oners Ranch	Carson																	T.	1 10	m							T		1. 0	1	35 . 1	0 .3	N
etwater	Truckee East Walker																			T.							. 1		1		1		**
oma	Humboldt																		0	50		1			0 .1						05		**
opah	Desert				-1000							1						.03	00	. 0.		1								11 1	28 1	9 0	99
19	Humboldt																		30					9	0	1			-	1	10		
low Point	Little Hum-																		. 30	1		1000											
wand to	boldt.								1				1						1	1													
			1	1	1	1	1	T	1	1		1	0			1		Т.	.35				. T.					T				3 T	

^{*} Precipitation included in that of the next measurement.

‡ Separate dates of falls not recorded.

‡ Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—Maximum and minimum temperatures for May, 1913. District No. 10, Great Basin.

		gon.												1	Nevad	В.												
Date.	Bu	rns.	Che	erry ek.	E	ko.	Eur	eka.	Fal	lon.	Jes	m.	Lovel	locks.	Mill	ett.	Min	na.	Qui Riv Ran	rer	Re	no.	Teco	ma.	Tono	pah.	Win	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min
1 2 3 4 5	54 61 65 75 75	29 33 31 35 39	44 50 59 66 73	27 18 27 32 35	33 40 48 71 76	13 8 22 34 36	42 46 61 70 75	21 15 20 31 36	54 58 70 75 82	27 21 29 40 39	92 91 91 90 90	48 46 48 43 42	57 59 71 77 82	22 23 29 35 35	51 50 65 72 77	19 20 20 26 31	50 56 65 73 83	32 27 38 41 45	70 75 81	25 27 30	52 58 70 74 78	29 27 32 40 42	65 60 65 65 70	20 5 9 15 17	46 50 61 69 74	22 29 33 46 51	53 56 66 72 79	2 2 2 3 4
6 7 8 9	87 80 79 76 64	44 32 36 39 26	75 75 71 73 72	43 39 40 46 44	73 78 90 94 78	35 30 29 31 30	76 73 74 75 74	42 43 38 41 45	83 80 76 76 78	43 49 40 42 44	87 88 90 92 93	43 47 47 47 46	85 80 79 78 75	43 40 40 40 45	79 75 74 75 76	32 34 32 39 38	83 80 79 81 79	47 42 45 48 46	86 82 74 70 69	33 52 45 46 44	81 73 64 61 60	44 51 42 46 42	77 80 80 80 78	21 26 29 30 24	74 70 70 70 70 72	53 51 45 47 47	83 78 75 74 68	4 4 4
1 2 3 4 5	62 59 60 64 66	30 27 27 27 30 33	70 68 56 65 69	36 40 35 25 35	76 75 70 69 70	30 30 24 25 25	71 71 56 67 72	33 42 29 24 33	66 65 65 72 79	31 41 32 34 40	90 88 88 89 90	43 43 43 45 46	69 70 63 67 72	34 39 37 33 34	73 70 62 70 75	31 42 33 24 40	78 70 67 72 75	45 42 46 37 46	68 65 64 74 72	30 36 35 20 45	67 55 64 70 72	31 37 33 37 40	80 75 74 72 73	25 23 22 12 22	72 71 55 63 71	38 37 32 40 45	66 62 62 70 72	3 4 3 3 4
8 8 9	69 59 58 62 77	39 34 30 34 37	68 73 60 68 64	43 37 37 38 38	70 78 70 68 69	40 25 32 24 33	74 70 60 58 67	36 42 36 31 38	81 74 68 69 74	46 42 47 37 47	93 90 91 91 92	42 42 43 44 47	65 74 76 75 78	33 36 38 37 38	79 76 65 85 72	42 37 43 37 37	80 80 72 70 75	48 48 42 40 42	70	47	77 67 57 68 71	44 44 42 37 44	72 74 78 76 76	30 24 35 29 32	73 76 59 62 70	46 53 39 36 48	70 72 56 64 70	3334
1 2 3 4	80 86 80 81 85	40 45 45 42 44	70 77 82 81 83	36 44 47 52 52	82 87 74 75 74	25 32 38 42 35	74 80 81 81 83	38 42 48 52 47	83 90 90 89 91	44 47 48 57 47	'93 98 97 95 93	55 60 63 61 59	81 88 93 92 92	39 40 43 58 47	80 83 85 84 84	39 40 40 47 41	86 89 90 89 96	43 44 50 55 54	82 89 90 88 88	31 35 44 49 44	82 85 84 82 86	48 51 49 54 47	77 76 81 80 80	29 25 39 39 39	77 81 81 81 81	50 58 57 56 56	79 87 88 86 89	4 4 5 4
8 7 8 9	89 72 73 67 75	42 45 42 40 45	78 77 69 63 64	52 45 50 45 38	86 74 73 68 60	40 41 35 40 32	80 76 71 63 58	54 53 47 36 36	91 79 63 70 73	50 55 39 49 45	95 97 95 95 96	59 60 58 58 59	94 82 70 74 80	50 47 44 47 45	84 80 69 60 62	53 47 50 40 35	89 82 76 62 63	53 42 39 44 40	91 70 66 71 82	45 48 45 43 49	85 69 57 70 74	52 47 42 49 48	81 87 85 84 82	35 40 34 40 37	77 71 55 46 56	58 51 36 39 41	90 79 66 73 78	4 4 4 5
	88	47	69	40	64	32	66	35	72	45	96	60	79	44	67	35	68	43	80	46	73	45	80	39	59	44	77	4

		Wyo	ming.													Ut	ah.									
Date.	Bor	der.	Evar	nston.		ston, tho.	Cori	nne.	Fills	nore.		ern- Creek.		dow- lle.	Mod	lena.	Des	eret.	Oge	den.	Paro	wan.	Pre	ovo.		Lake
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.												
1 2 3 4 5	44 46 51 57 62	29 26 15 32 22	43 41 49 56 63	20 14 20 19 27	49 52 59 69 72	31 26 21 32 29	51 53 58 65 70	31 30 25 28 35	47 54 62 74 80	32 29 27 36 37	45 47 56 64 71	31 22 25 35 36	47 47 54 60 67	30 - 25 20 38 32	43 51 59 70 74	30 32 28 29 33	46 57 64 73 78	34 - 25 21 25 30	44 54 62 64 73	29 28 27 41 35	53 52 58 69 76	28 26 25 29 37	54 56 66 72 78	30 25 21 28 28	47 51 57 62 70	35 35 34 43 43
6 7 8 9	72 73 73 68 64	25 29 35 34 36	69 67 68 70 69	28 32 36 33 35	78 80 79 79 77	32 37 40 37 36	75 80 79 77 72	36 37 50 45 38	85 84 85 86 81	47 59 57 42 47	79 77 76 77 76	42 48 46 49 46	73 75 72 77 67	30 35 37 34 35	76 71 70 72 73	37 35 35 40 35	83 82 79 82 80	35 45 45 45 44	80 82 79 80 79	40 46 44 45 44	78 75 74 76 77	42 40 42 39 37	87 85 82 85 83	34 41 40 35 38	79 81 78 79 76	50 56 58 54 59
11 12 13 14 15		35 36 38 27 29	64 66 60 53 58	31 35 32 20 18	70 67 65 64 66	48 38 38 28 34	68 65 67 70 70	35 38 30 25 28	81 78 65 64 80	46 51 38 35 37	71 68 68 60 72	39 41 33 28 40	70 74 56 59 65	33 33 38 28 32	74 72 59 64 72	36 40 35 28 33	78 79 70 68 78	41 42 38 30 31	69 69 60 61 69	46 41 40 30 42	77 76 64 65 73	38 39 36 28 34	77 75 81 75 77	40 39 30 27 32	67 67 57 60 69	52 51 44 40 46
16 17 18 19 20	70	29 34 45 35 32	57 65 67 57 54	40 30 35 33 31	77 75 70 50 54	46 39 45 37 38	66 72 69 71 70	49 42 38 37 38	83 84 62 75 81	41 43 40 41 45	70 77 79 53 64	41 41 40 38 37	60 73 71 51 57	43 34 45 34 35	76 76 67 63 71	40 43 45 41 34	79 83 83 70 71	41 39 47 40 39	68 64 74 63 64	48 40 51 37 38	79 74 63 72 77	42 48 42 34 44	77 83 75 59 67	32. 36 45 35 40	64 75 71 53 64	54 50 45 39 44
21 22 23 24 25	62 72 75 76 75	26 26 32 36 50	64 72 75 77 74	25 26 35 42 45	68 77 80 77 83	32 36 41 46 48	69 71 80 82 80	39 37 34 55 59	83 88 90 86 83	43 44 51 54 60	68 79 84 84 84	36 39 49 55 49	65 71 78 78 80	30 33 39 41 48	78 80 81 79 82	42 45 44 48 51	77 86 87 87 91	42 38 46 57 54	70 78 85 84 84	36 40 46 52 55	84 84 84 82 82	43 48 43 46 44	73 83 90 91 91	36 32 41 46 52	67 76 83 84 83	47 48 53 61 60
26		36 37 42 44 36	78 72 74 73 75	42 41 42 39 42	87 84 83 82 80	46 47 48 55 51	87 86 80 83 85	51 50 56 59 50	85 86 86 66 82	60 55 51 38 45	87 83 80 75 76	54 48 46 41 42	76 82 74 79 75	48 41 40 44 50	82 79 69 53 67	49 44 44 39 35	85 87 82 70 82	51 54 47 42 41	89 85 84 76 79	48 54 60 59 49	83 80 76 62 69	54 46 44 32 39	90 86 85 80 83	45 45 53 46 39	89 84 83 73 82	61 62 65 39 34
31 Mns	74 66. 4	35 33.0	74 64.6	36	82 72.1	42 38.8	86 72.8	49	89 77.9	45 44.4	80 71.9	42	72 68.0	40 36, 3	73 70.2	42 38.5	83 77.4	43 40. 6	85 72.8	54	69 73.0	43 39, 1	86 78.5	39 37.1	83 71.4	58

^{*,} b, °, etc., indicate respectively 1, 2, 3, etc., days missing from the record.

* §§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR MAY, 1913.

DISTRICT NO. 11, CALIFORNIA.

Prof. ALEXANDER G. MCADIE, District Editor.

GENERAL SUMMARY.

May, 1913, was nearly normal in temperature and precipitation. It was somewhat warmer than May, 1912, but with slightly less rain. The precipitation was not sufficient for the general need of the State, and, on the other hand, there were no floods or heavy run-offs due to melting of the snow by warm rains. No water has therefore been wasted, and the distribution of the rain with regard to time and locality has been favorable, coming when most needed. There were three rainy periods during the month, from the 8th to 12th, from 17th to 19th, and from 27th to 29th. The precipitation was comparatively light in the mountain sections and the snow that fell did not remain long.

Regarding the season as a whole it can now be said that the water supply is deficient, and there will probably be need of water in certain localities before the end of summer.

Compared with other Mays there was less northwest wind than usual, and while there were some periods when the afternoon winds exceeded 40 miles an hour there were no extended periods, and few records of maximum velocities exceeding 60 miles. The most important disturbance of the month occurred on the 27th, when a well-marked depression over the Great Basin was accompanied by thunderstorms in the Sierra and showers in the foothills and valleys.

There were very few frosts and practically no damage. From an agricultural point of view the weather of May was favorable and all crops made good growth, except in those sections where early rains had been insufficient.

TEMPERATURE.

The mean temperature for the State was 0.2° above the normal. The following table gives the means and departures for each May from 1897 to 1913, inclusive:

Year.	Mean.	Depar- ture.	Year.	Mean.	Depar- ture.
	° F.	°F.		° F.	°F.
1897	66.9	+4.8	1906	59, 8	-2.
1898	61.3	-0.8	1907	61.5	-0.
1899	59.9	-2.2	1908	58.0	-4.
1900	64.0	+1.9	1909	60.4	-1.
1901	62.0	-0.1	1910	65. 5	+3.
1902	60.8	-1.3	1911	58.3	3.
1903	63.5	+1.4	1912	60.7	-1.
1904	64. 9	+2.8	1913	62.3	+0.
1905	59, 6	-2.5			

The highest temperature recorded was 120° at Greenland Ranch, in Death Valley, on the 25th. This was 12° higher than the highest recorded during May, 1912, and 16° higher than the highest recorded during May, 1911, but 1° lower than the temperature recorded at several stations in California during May, 1910. The lowest tem-

perature was 12° at Summit, Placer County, on the 1st. This was 4° warmer than the lowest temperature during May, 1912.

PRECIPITATION.

The precipitation was slightly below normal. The following table gives the average precipitation and departure from normal for each May from 1897 to 1913, inclusive:

Year.	Mean.	Depar- ture.	Year.	Mean.	Depar- ture.
1897	Inches. 0.18	Inches.	1906.	Inches.	Inches.
1898	1.56	-1.04 + 0.34	1906	3. 19 0. 57	+1.9
1899	0, 73	-0.49	1908	1.63	+0.4
1900	1.39	+0.17	1909	0.23	-0.9
1901	1.03	-0.19	1910	0.18	-1.0
1902	0.84	-0.38	1911	0.72	-0.5
1903	0.14	-1.08	1912	1.92	+0.7
1904	0. 22 2. 18	-1.00 + 0.96	1913	1.04	-0.1

The greatest monthly precipitation was 4.19 inches at Blue Canon, and there was no rainfall at 21 stations. The greatest 24-hour rainfall was 1.83 inches at Dunlap.

Snowfall.—May was a month of light snowfall. The greatest depths were 5 inches at Tamarack and Summit. The snow disappeared from the mountains early and was practically gone by the middle of the month. This resulted in an early travel season in the mountains, and passes not usually free from snow until after the middle of June were accessible by the end of May.

of June were accessible by the end of May.

The following table shows the depth of snow on the ground at Summit on given dates in May during the period 1907 to 1913:

the state of the same of the s	May 1.	May 15.	May 31.
	Inches.	Inches.	Inches.
1907	115 20	121	71
1909	119	66	33
1910	13 94	12 65	9
1912	36	13	0
913	23	Patches.	

SUNSHINE.

The following table gives the hours of sunshine and percentages of the possible:

Stations.	Hours.	Percentage of possible.	Stations.	Hours.	Percentage of possible.
EurekaFresnoLos AngelesMount TamalpaisRed Bluff	261 396 284 354 355	. 58 90 66 80 80	Sacramento	358 268 281 357 305	81 62 64 81 70

There was more sunshine than during May, 1912.

NOTES ON THE RIVERS OF THE SACRAMENTO AND LOWER SAN JOAQUIN WATERSHEDS.

By N. R. TAYLOR, Local Forecaster.

Sacramento watershed.—The rainfall throughout this watershed was deficient, especially in the lower reaches of the Sacramento River. As a result of this condition and the small amount of snow in the mountains all streams averaged from 1 foot to over 3 feet below the usual May stages. The little snow that remained in the mountains melted rapidly during the month, causing a slight increase in the run-off of all watercourses. By the close of the month the snow had practically disappeared, except that the higher levels of Mounts Shasta and Lassen were still covered and some isolated drifts remained in the high Sierra.

From all obtainable information the visible water supply on the last day of May was markedly deficient, and the present indications are that all rivers of this watershed will be as low during the coming summer and fall as they were during the low-water season of 1912, when most streams fell to the lowest points ever recorded.

The lower San Joaquin watershed.—All streams in this watershed felt the effects of snow water and averaged from 1.5 to over 5 feet above that of the preceding month. They were, however, below the May normal, especially the lower San Joaquin.

NOTES ON STREAMS OF THE UPPER SAN JOAQUIN WATERSHED.

By W. E. BONNETT, Local Forecaster.

The streams of the upper San Joaquin watershed were much below the average stages in these streams for the month of May, although there was a considerable rise over April stages as the weather became warmer.

The average stage at Merced Falls was 1.5 feet, and it was slightly higher than the 1908 average, which was the lowest of record at that point. At Friant the mean stage was 1.4 feet, as compared with a 7-year average of 3.2 feet and a previous low average of 1.7 feet in 1908. The flow in the Kings River was slightly better than that of 1912 and much better than that of 1908. The average May stage at Piedra this year was 8.9, as compared with 8.1 feet in May, 1912. The lowest stages at all points were recorded during the first few days of the month. The highest stages and the dates on which they occurred are as follows: Merced Falls, 2 feet on the 19th; Friant, 2.2 feet on the 25th; Firebaugh, 5 feet on the 28th; Piedra, 10.5 feet on the 23d and 24th.

THE SUN AS A FOG PRODUCER.

By Prof. A. G. MCADIE.

In the Proceedings of the Royal Society of Edinburgh, volume 32, page 183, Dr. John Aitken discusses at length certain fog formations which may be called in a general way sun fogs. The exact title is "The sun as a fog producer," and Dr. Aitken remarks in the opening paragraph that he fears most people will think the title a printer's or an author's error and that the proper caption ought to have been "The sun as a fog disperser." The point is worth calling attention to, because, without doubt, most of us familiar with the dissipation of fog due to direct insolation have never thought of the possibility of the opposite occurrence, namely, a certain increase of nuclei and consequent condensation under sun action. Some years ago Dr. Aitken noticed at Falkirk, especially during winter

months, that on many mornings when the air was clear before sunrise there was a gradual thickening and fogging as the sun rose, while in the pure country air such changes were not detected.

The following distinction by him between haze and fog is worth repeating, as certainly there could be no higher authority. First and foremost—

there is no hard-and-fast line between what we call haze and fog; we usually call it fog when very thick and damp, but even here the boundary line is unsatisfactory, as we have dry fogs. So, again, there is no hard-and-fast line between fogs and clouds. Fogs are generally composed of a greater number of smaller particles than clouds, but cumulus clouds are very much like fogs in this respect. I have shown that they also are composed of closely packed small particles, and it is only after a time that they become fewer and larger by the evaporation of the smaller particles and the condensation of the vapor on the larger ones. In these phenomena we have a gradual change from haze (the effect of which is mainly due to dust and very little to water) to fog (the effect of which is mostly due to the water condensed on the dust) and to the obscuring effect of cloud (which is almost entirely due to water); but between these three domains there are no hard-and-fast boundaries.

The action of the sun in producing fog as noted by Aitken has been confirmed by the observations of haze at Blue Hill Observatory during a period of 20 years, 1890–1909, inclusive. Palmer, in an article on Atmospheric humidity as related to haze fog and visibility at Blue Hill (Bulletin of the Mount Weather Observatory, vol. 5, pt. 4, Apr. 8, 1913), shows that haze occurs more frequently in the early morning than in the afternoon. As the sun rises the increasing insolation deepens the haze stratum, renewed convection stirs it up, and occasionally a cumulus cloud develops in an especially strong ascending current.

Aitken's observations to determine if the morning fogs were a sur effect necessitated a record of the humidity of the air, the direction and velocity of the wind, the transparency of the air, and the amount of cloud on the eastern horizon, to show the amount of sunshine. Two observations on transparency were made, one before sunrise and the other about 9.30 a.m. The transparency of the air was observed by noting the amount of haze or fog on a hill 400 feet high and 300 feet above the place of observation and three-quarters of a mile south-southwest. Specimen observations taken from his note book give the year, month, day, wind direction and force, night minimum, dry and wet bulb readings, sunshine, and limit of visibility in miles for the two observations.

It is to be regretted that in connection with these observations there were not available continuous records of the vapor content of the air, also records giving the intensity of solar radiation and electric potential.

On many mornings the air did not lose its transparency after sunrise, which was due either to absence of sunshine or excessive wind preventing accumulation of impurities in the air or to dryness of the air or other cause of comparative purity. It was observed that increase in haziness was directly proportional to humidity and sunshine and inversely to air dryness and wind velocity. Clear sun at sunrise gave a maximum effect; but sunlight through clouds was also effective though less marked. The conditions favoring the formation of the sun fog are cloudless sunrise, a wet-bulb depression of 1° or less, and absence of wind after blowing from an impure direction. If the air be nearly saturated "the sun soon gets hazed out and dense fog is formed." The fogging is not due to the air becoming colder, as the temperature was always higher at the time of observation than during the night. Nearly all the formations occurred under anticyclonic conditions, but no special significance need

be attached to this, and fogs formed when the center of the anticyclone was north, southeast, or west. The densest fog occurred when there was no general circulation, a condition favoring the accumulation of impurities in the air. These conclusions are borne out by the Blue Hill Observations (Palmer, in article referred to above), where the conclusion is reached that "haze seems to be associated with a relatively stagnant condition of the atmosphere."

Aitken advances the hypothesis that as these fogs are only formed in air which has come from densely populated parts of the country, they are probably formed by the action of the sunlight upon impurities. There are two kinds of nuclei of cloudy condensation. One has no affinity for water vapor and the other has. The latter condenses water vapor into minute drops even in unsaturated air and so causes dense fog. Aitken makes a distinction between cloud particles where the smaller drops tend to evaporate, and fog particles which hold their own share of water. Evaporation is checked by the concentration of the impurities in the smaller particles and by dilution in the larger. The fog particles, therefore, or nuclei with affinity for water are persistent and retain their numbers and fogging effect. Only those nuclei which have an affinity for water can be called true fog formers in unsaturated air.

Aitken then describes at length his apparatus for testing air and the various experiments made to determine whether the nuclei had any affinity for water vapor. There is one interesting experiment in connection with the use of chloride of sodium dissolved in water. The effect of the presence of salt on ordinary condensation resulted in a discovery that the cloud did not remain so long a time as usual, but vanished rapidly. The affinity of the salt for water was so great that it robbed the nuclei of their water, which evaporated, diffused, and was absorbed by the salt solution. This shows that the rate of diffusion of water vapor in air is very rapid. This is of importance in connection with experiments which have been made on evaporation, for it has been assumed

that diffusion under quiet conditions of air motion was an extremely slow process.

Aitken then studies the sulphur oxides which are products of combustion, in their rôle of nuclei producers. SO₂ while kept in pure air shows little tendency to produce nuclei, but combines readily with other products of combustion and then, as Aitken puts it—

Falls from its high state of a free-moving gaseous molecule to the condition of a solid or liquid particle confined to Brownian movements, and probably ends its independent existence in a fog particle, or possibly in a rain drop.

SO₂ remains free from nuclei if kept in the dark. If exposed to light, especially sunshine, it becomes an active nucleus producer and some of the nuclei thus formed have an affinity for water. More marked effects were obtained when burning sulphur was used in place of a solution. Furthermore, the action of light is a cumulative one, the particles growing in size under the continued influence of light.

It was found that when an electric discharge occurs in air containing SO₂ an enormous number of nuclei were produced which gave a very dense fog on expansion; furthermore, many of the nuclei caused condensation in unsaturated air.

After testing various gases and finding that neither oxygen, nitrogen, nor water vapor had any special effect upon SO₂ Aitken proceeded to test other products of combustion, such as ammonia, hydrogen peroxide, and ozone. The former probably plays no part in the formation of the morning fog; but the peroxide causes a dense condensation both with and without expansion, showing that there has been produced an immense number of nuclei with a strong affinity for water. Ozone also reacts powerfully on the SO₂ producing dense condensation upon exposure to the sun.

tion upon exposure to the sun.

Aitken is of opinion that peroxide of hydrogen produced by sunshine is active in producing nuclei. This gas is generally admitted to be produced by the ultra violet rays. It is found in dew and in rain; but not in dew formed during the night, only in that condensed after sunrise.

Table 1.—Climatological data for May, 1913. District No. 11, California.

			years.	Temp	erature	, in c	legre	es Fah	renh	eit.	Prec	ipitation	, in in	ches.	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.		Observers,
Oregon.	Vlamath	4.169																		N. D. Ginebeek
Klamath Agency Klamath Falls Lakeview	do	4,100 4,825	23 29		+ 0.6	83 81	31 26	26 21	1	31 39	0.71	- 0.33 - 0.73	0.28 0.35	0.5	4 7	18 11	8 7	5 13	nw.	N. D. Ginsbach. Augusta J. Hayden. C. C. Gott.
MerrillYonna	Klamath	4,070 4,146	6 5	50.4	******		26	18	1		0.44			0.0		5	18	8	w.	U. S. Reclamation Service Ward Rueck.
California.																				
Alturas	ModocTulare	4,400 208	9	54.0 69.8	+ 4.7	87 98	26 24 25	26 46	1	47 38		+ 0.14	0.32 0.44	0	8	17 29	9	5 2 4	sw. n.	Prof. C. B. Towle. Santa Fe Co.
Antioch **	Contra Costa Santa Cruz	46 102	34	71.8	+ 5.7	96	25	50 48	5†		0.45	- 0.05 - 0.14	0.33	0	2	27 15	6	10	e. nw.	Southern Pacific Co. Do.
Arrowhead Springs	San Bernardino	2,000 1,360	42	62,4	+ 1.5	88 92	18 22 26	48 42 42	2 1†	35	$0.45 \\ 1.22$	- 0.30	0.30	0	3	24 23	7 2	0	ne.	Dr. E. J. Erekson. Southern Pacific Co.
Avalon	Los Angeles	30 540	3	59.6	+ 0.1	72 89	24	48	2 2	16 44	0.00	- 0.71	0.00	0	0 3	26 24	2 2	3 5	W.	T. S. Manning. A. P. Griffith.
Bagdad	San Bernardino	784	10	82.2	+ 2.0	105	24 23 25 25 25 24	35 53	1 2	30	0.00	- 0.18	0.00	0	0	31	0	0		Santa Fe Co.
Bakersfield Barstow	Kern	2,105	10	65.0	- 1.1 - 2.8	104 98	24	38 40	1 1 1	53 47	T.	- 0.18 - 0.04 - 0.18	0.20 T.	0	0	29 29	0	2 8	w.	E. L. White.
Berkeley Betteravia	Alameda Santa Barbara	317	26	60.6	+ 0.9	80	30 6†	43 32	13	29 40	0.15		0.41 0.10	0	6 2 3	11 22 20	12	1	SW. W.	State University. Union Sugar Co.
Biggs **	Butte Inyo	98 4,450	14 18	69.3	+ 3.3	94 90	30+	42 26	2 2	50	0.97	- 0.09 - 0.12	0.41	0	3	20 30	8 7 0	4	s. n.	Southern Pacific Co. Paul E. Lodge.
Bishop Bishop Creek Blocksburg	Humboldt	8,500 1,700	3 7	47. 0 56, 6		70 93	25 24 30	14 30	1	31 47	0.45		0.20	4.5	3 6	13 12	12	6 15	s. nw.	Do. Victor Hope.
Blue Canon	Placer	4,695	14	54.2	+ 2.0	78	26	20	1	39	4.19	+ 0.63	1.45	0	7	26	0	5		Southern Pacific Co.
Blythe Branscomb	Riverside Mendocino	268 2,000	13		+ 2.2	102 90	25† 30	39 30	3†	52 45	$0.00 \\ 2.77$	+ 0.05	0.83	0	7	29 22	2 4	5	s. n.	C. L. Suits. A. J. Haun.
Brawley	Shasta	-105 $3,300$	3	74.0 54.6			24 31	49 23	2 2	40 50	0.00			0		15	10	6	sw.	M. D. Witter. Mrs. M. D. Chambers.
Cahuilla	Riverside	3,600	8	54.4 75.6			23 24	21 46	2 2	50 45	0.12		0.10	0	2	21 29	8 2	0	e. nw.	Dr. W. L. Shawk. J. E. Peck.
Calistoga **Campbell	Kern Napa	1,200 363	37 41	66.6	- 3.4 - 3.2	99	26† 30	40 36	17							22 20	0	9	W.	Southern Pacific Co.
ampbell	Santa Clara	217	16	58.0	+ 0.5	88	30	32	13	45	0.70		$0.54 \\ 0.56$	0	3	22	2	7	nw.	Do. F. M. Righter.
Camptonville (near) Cedarville	Modoc	3,500 4,675	19	59.8 55.1	+ 3.1	88	6 26	32 27	1 1 1 1		$3.06 \\ 0.62$	- 0.65	1.48 0.33	0	3	21 10		9	SW.	Cal. Gas & Electric Co. T. H. Johnstone.
Chico China Flat	Butte	189 600	43	66.2	- 2.2	100	30†	40 34	1 1	46	1.39	+ 0.45	0.59	0			6	9	sw.	G. H. Stephenson. O. I. Westerburg.
Chino	San Bernardino	714 5,939	21 42	62.4 47.8	$\begin{vmatrix} -3.0 \\ +3.6 \end{vmatrix}$	76 72	15† 27†	42 20	1			- 0.46	T.	0			8	0 7		Southern Pacific Co. Do.
Claremont	Los Angeles	1,200	21 11	61.3	+ 0.1 + 0.9	86 95	23 30	35 39	2 2	42 44	0.38	$\begin{array}{c} -0.47 \\ +0.10 \end{array}$	0.19	0			7	6 5	W.	Prof. F. P. Brackett. John O. Ogle.
Coalinga	Fresno	663	1	69.0		100	25†	39	14	41	0.18	+ 0.10	0.83	0		25		2	W.	Union Oil Co.
ColfaxColusa	Placer	2, 421 60	10	67.0		93	31	39	i	38	0.62	- 0.03	0.45	0	4	24	2	5	n.	Southern Pacific Co. C. D. McComish.
Colusa	Tehama	277 4,677	27	74.9 56.1	+ 6.7	96 82	31 24	52 29	12	33	0.48	- 0.47 - 1.68	0.20	0		20	10	1 7	S. W.	Southern Pacific Co. Cuyamaca Water Co.
Davisville Deer Creek	Yolo	3, 700	41	64.8	- 3.1	96	25	37	11†		0.36	- 0.36	0.14	0			5	0	S.	S. H. Beckett. Cal. Gas & Electric Co.
Del Monte	Monterey	25	2	59.8		76	30	46	2	18	0.27		0.27	0		22 24	2	7 7	nw.	H. R. Warner.
Delta Denair	Stanislaus	1,138 126	28 13	65.0 64.8	+ 0.5		30 25	44 38	1	41 42	2. 25 0. 43	- 1.16 - 0.16	1.04	0	2	25	2	4 7	n. nw.	Southern Pacific Co. Santa Fe Co.
De Sabla Dobbins (near)	Yuba	2,500 $1,650$	9	58.5 65.1			25† 31	30 40	1 1 2	38	2.75 2.95		0.93	0			13	5	SW.	Cal. Gas & Electric Co. Do.
Downieville Dudley	Sierra	3, 150 595	2 2	57.8 72.4		89	25 26	28 39	28	48	2.97		1.15	0		17 28		6 2	s. se.	J. T. Mason. Union Oil Co.
Dudleys Dunlap (near)	Mariposa	3,000 2,800	4	54.7 57.2		86	26† 25 23†	23 31	1	45 51	1.62 2.06		0.72	0	4	16	8	7 3	nw.	W. H. Dudley. U. S. Forest Service.
Dunnigan ** Dunsmuir **	Yolo	65	36 24	77.0	+ 6.7	98		58	81		0.21	- 0.76	0.18	0	2		4	3	n.	Southern Pacific Co.
Durham	Butte	2, 285 160	18	61.8		88 95	31	40	17	46	3.41	+0.27	1.03	0	5	20		6	n. s.	R. W. Durham.
El Cajon	Amador	482 725	14	61.4		82 96	25	41 38	21	36	0.16		0.16	0	4	28 26	2	1 3	w.	H. H. Kessler. Cal. Gas & Electric Co.
Emigrant Gap Escondido	Placer	5, 230 657	39 19	52.5	+ 2.3	80	26† 23†	30 36	17	36	3.70	+ 1.08 - 0.47	1.00	0	5		0	6	8.	Southern Pacific Co. A. R. Moon.
Eureka Farmington **	Humboldt	64 111	27 34	52.4	+ 0.3	64	7	39	2	15	1.67	- 1.16	0.71	0				4	n.	U. S. Weather Bureau. Southern Pacific Co.
Folsom	Sacramento	252	41		+ 2.5	98	31	40	1	42	1.27		0.56	0		21	0			F. O. Hutton.
Fordyce Dam Fort Bidwell	Modoc	6,500 4,735	18 24	53.0 54.6	- 0.4	81 87	25 25	14 24	1	37 39	3.42 0.60		0.95	1.0		8 12				E. E. Roening. C. R. Decious.
Fouts Springs	Colusa	1,650 293	26	68.4	0.0	98	25	40	1	37	0.30		0.28	0	3	20	10	i	nw.	A. J. Burgi. U. S. Weather Bureau.
Galt **Georgetown	Sacramento	2,650	35	69.4	+ 2.3	93	30	52	28		0,77	- 0.24	0.53	0	3	24	1	6	nw.	Southern Pacific Co. G. L. Buchler.
Gilroy **	Santa Clara	193 3,300	39	63.8 65.8	+ 1.3	90 94	22† 31	40 40	11		0.83 2.51	+ 0.07	0.70				5 4	19 16	se.	Southern Pacific Co. A. Dannenbrink.
Glennville	Kern	3,300	3	58.2		88	25	28	1 1	39	1.15		0.97	0	3	16	12	3	w.	C. H. Likely.
Gold Run	Monterey	3,222 127	14	65.9	$ +0.8 \\ +9.1$	87	26	35 50	28	38		+ 0.36	1.45 0.63		2	26	2			Do.
Grass Valley Greenland Ranch	Nevada Inyo	2,690 -178	41	59.4 84.8		84 120	25 25	32 52	1	28 52	3.00	+ 0.68	1.28	0			0	8	sw.	Mrs. L. M. Wentworth. J. W. Corkhill.
Greenville	Plumas	3,600 2,828			+ 0.5	88	25	22	11	49	1.30	- 0.68	0.43	T.	5				sw.	C. H. Higbie. H. S. Richardson.
Guinda **	Yolo	350 249	15	64.4	- 1.7	92	30	43	1		0.49	- 0.14	0.28	0	3	20	4	7	n.	Southern Pacific Co. Santa Fe Co.
Healdsburg	Sonoma	110	20	64.2	+ 4.3	99	30	41	14		1.49	- 0.29	0.75	0		14			se.	Dr. F. J. Kinley.
Hearst	Imperial	$\frac{1,800}{-20}$	3	58.6 76.4		86 103	31 22	40 45	2	43 51	2.63		0.65	0			. 7	4	w.	H. D. Ellmaker. F. E. Hamilton.
Hetch Hetchy Hollister	Tuolumne	3,665 284	39		- 3.9	83	161	33	2	40	0.86	+ 0.32		0			11	1	w.	J. N. Thompson.
Hornbrook	Siskiyou	2, 154 3, 300	25 6		- 9.9	78 89	25	30	231		0.00	- 0.91	0.00	0	0	26	2	3	8.	Southern Pacific Co. U. S. Forest Service.
Hullville	Lake	2,250	6	58.4		89	30#	29	1	41	2.05	0.00	0.76	0	8	1	23	7	sw.	T. H. Betterton.
Independence Indian Wells	Inyo Kern	3,907 2,500	17	62.2	- 2.3	89	23†	29	2	37	0.31	+ 0.02	0.30	0	2	18	12	1		U. S. Weather Bureau. I. D. McCoy.

Table 1.—Climatological data for May, 1913. District No. 11—Continued.

			years	Tem	peratur	e, in	degr	es Fa	hren	heit.	Pre	cipitatio	n, in in	ches.	days,		Sky.		direc	1 7 5
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure f.o.n the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily	Total.	Departme from the normal.	Gentest in 24 hours.	Total snowfall, unmelted.	Number of rainy 0.01 inch or mo	Number of clear days.	Number of part- ly cloudy days.	cloudy days.	Prevailing wind	Observers.
California—Continued.																				West was
ndio nskip	Riverside Butte	-20 4,975	35 6	77.6 56.1	- 2.5	101 88	24 25	50 30	1 11		0.00		0.00	0.8	8 4	22 10	9 12	9	nw.	F. N. Johnson. Cal. Gas & Electric Co.
ne **	Amador	287	35 10	70.0	+ 5.0	95	2	49 35 38 42	2		1.34	+ 0.15	0.65	0	4	24	0	7	•••••	. Southern Pacific Co.
mestownennett	Tuolumne	1,471	1		+ 2.8	93	25 31	38	13	44	1.96 2.17	+ 0.49	1.26 0.75	0 0	6	26 16	13	2	8W.	Sierra Railway Co. C. H. Kremers.
entfield	Marin	65	25	61.0h		91	30	42	111	42	1.21	- 1.07	0.61	0	5	23 28	4	4		. Miss M. E. Parsons.
ing City	Monterey	333 4,700	26	65.0	+ 5.1	93	18	33	1	56	0.42	+ 0.06	0.42	0	1	28	0	3	n.	Southern Pacific Co. O. J. Todd.
Porte	Tuolumne	5,000	19	50.1	+ 1.7	75	25	28	1	33	4.09	- 0.23	1.54	0.2	7	18	9	4	8.	C. W. Hendel.
Grand	Merced		13	65.6	+ 1.9	98	21†	28 35	1	48	0.56	- v. 1v	0.56	0	7	27	0	4	nw.	Santa Fe Co.
mon Cove	Tulare Santa Clara	4,209	18 24	70.8	+ 3.0	104	26	40	6	54	1.25	+ 0.08	1.25	0	1	18	13	0	nw.	W. R. Park. The Director.
ck Observatory	Alameda	485	42	63.2	+ 1.8	93	30	35	2	47	0.58	- 0.02	0.30	0	6	22 22	5	4	w.	E. G. Still.
ne Pine	Inyo	2,728	8	61.0		90	20†	30	2	50	0.53		0.15	0	6	22	7	2	8.	G. F. Marsh.
ng Valleys Angeles	Los Angeles	4,400 293	36	60.0	+ 0.4	76	24	47	5	26	0.05	- 0.38	0.05	0	1	16	9	6	sw.	U. S. Weather Bureau.
s Banos**	Merced	121	26	70.3	+ 2.0	90	16†	60	11		0.43	- 0.05	0.43	0	i	13		18	W.	Southern Pacific Co.
s Gatos	Santa Clara	600	26		+ 0.9	89 85	30	39	1+		0.95	- 0.12	0.61	0	4	20 19	4	7	n.	F. H. McCullagh.
Cloud	Siskiyoudo	3,410 4,528	8	54.0 50.4		85 82	31 25†	20 20	1	45	3.05		0.95 0.80	1.0	6	19	9	3	W. 8.	F. F. Spencer. Butte Valley Land Co.
deline	Lassen	5,270	4	19.8		82	25† 25 25	23	1	48	0.54	*******	0.20	0	6	16	5	10	nw.	J. H. Williams.
galia	Butte	2,321	9 35	60.4		89 105	25	38	1	40 35	2.84	0.00	0.98	0	5	22 30	0	9	n.	Butte County R. R. Co. Southern Pacific Co.
mmoth Tank	Imperial	257 640	2	81.5 70.2		100	25 26	57 15	1	45	0.00	- 0.02	0.00	0	0 3	21	5	5	sw.	Union Oil Co.
rysville	Yuba	67	42																	Southern Pacific Co.
ccanlo Park**	Riverside	-185 64	7 35	75.4	+ 0.3	100 78	24 30	41 50	18	53	0.00	- 0.14	0.00	0	0	22 15	9 7	0	nw.	E. A. Palmer. Southern Pacific Co.
reed	Merced	173	39	66.3	- 1.0	96	26	40	1	40	0.55	- 0.02	0.55	ő	î	22	4		nw.	Santa Fe Co.
ddlewater	Kern	803	2	71.7		103	23	41	13	41	0.00		0.00	0	0	19	9	3	w.	Union Oil Co.
l Creek (1)ton (near)	Amador Calaveras	2,500 660	6 22	66.6	+ 2.9	89 95	16† 25	35 45	1	37 35	0.92 1.10	- 0.13	0.92 0.63	0	3	26 24	6	3	nw.	. Cal. Gas & Electric Co. J. H. Southwick.
desto**	Stanislaus	90	41	60.1	- 9.3	94	25	38	1+		0.45	- 0.06	0.45	0	1	27	0	4		Southern Pacific Co.
ave	Kern	2,751	36	68.6	- 9.3 + 0.6	98	22†	47	28		0.00	- 0.03	0.00	0	0	25	6		n.	Do.
kelumne Hill	Calaveras Ventura	1,550 3,210	20	63.5 56.8	+ 4.7	91 85	25† 14	39 29	1	36 53	1.92 0.16	+ 0.35	0.79	0	1	19 27	4		w.	C. E. Prindle. Herbert Lathrop.
ntague	Siskiyou	2,450	25	56.9	- 3.5	90	31	24	2	53	0.71	- 0.12	0.45	0	3	14	12		n.	I. E. Deboy.
nterey**	Monterey	15	48	63.3	+ 5.0	76	71	54	1†		0.61	+ 0.11	0.46	0	3	27			е.	Southern Pacific Co.
nteriount Tamalpais	Kern Marin	4,500 2.375	14	55.5 56.0	- 1.7 - 2.3	90 78	31 30	32 39	12	30 24	0.62 1.08	- 0.84 + 0.16	0.50	0	9	20 20			nw.	John C. Knecht. U. S. Weather Bureau.
pa City	Napa	20	36	56.2	- 3.2	85	30	28	1	43	0.60	- 0.41	0.20	0	5	14	17	0	s.	Alex. Hull.
pa Citypa (S. H.)edles.	San Bernardino	60	35 21	62. 2	- 3.2 - 1.4 - 0.9	91	30	41	2	37	0.55	- 0.16	0.30	0	4	14			sw.	A. R. Edgar. Santa Fe Co.
lie	San Diego	5,350	4	78. 7 55. 0	- 0.9	102 82	25 22	55 25	17	40	0.00 1.20	- 0.06	1.20	0	0	29 29		0 1	8.	T. O. Bailey.
vada City	Nevada	2,850	21	57.0	+ 1.4	88	25†	25	1	44	2.59	+ 0.20	1.07	0	8	21	6	4	W.	S. W. Marsh.
whall **	Los Angeles Stanislaus	1,200	36 24	72.8 69.6	+ 8.7	92 100	29 26	54 40	23	48	0.00	- 0.54 + 0.21	0.00	0	0 2	26	0	5	se.	Southern Pacific Co. E. S. Wangenheim.
wman rth Bloomfield	Nevada	3,214	16		+ 7.7	86	25	47	1+	27	3. 10	+ 0.55	1.60	0	4	18	8	5	w.	J. R. McIntosh.
th Fork	Madera	3,000	9	64.1		92	6†	33	7 12	58	1.52		1.10	0	3	16	11	4	sw.	U. S. Forest Service.
dale **	Stanislaus	2,751	19	66.1 57.3	+ 2.6	96 89	26†	47 27	12	48	0.43	- 0.35	0.40	0	2 2	23 27			nw.	Southern Pacific Co. B. L. Johnson.
kland	Alameda	36	37		+ 2.3	82	30	46	2+	28	0.55	- 0.30	0.27	0	6	10	13		w.	Chabot Observatory.
anside	San Diego	60	3	60.4		70	11	45	2 2	20	0.16		0.06	0	4	13			w.	H. D. Brodie. W. H. Duncan.
i Valley	Ventura	900 254	31	59. 5 69. 0	- 1.4	90 99	23 25±	32 45	10†	46 43	0.13	- 0.16	0. 10 0. 42	0	7	25 22			SW. S.	U. S. Reclamation Servi
eans	Humboldt	520	10	66.3		104	25† 31	32	1	48	2.05	+ 0.17	0.71	0	8	21	0 1	10 .		F. T. Hale.
ville (near)	Butte	250 213	29 22	66.6	+ 0.5	99 98	31 22	35 40		45 .	1.50	+ 0.04	0.70	0	5 3	12 18			S. S.	E. D. Fairchild. Western Pacific Co.
ermom Springs **	Riverside	584	24	65.3	- 3.9	102	25	56	3†	51		+ 0.65	0.00	0	0	10	9	*		Southern Pacific Co.
adena	Los Angeles	827	23	61.4	- 2.2	83	23 24	40	1†	39	0.13	- 0.30	0.08	0	3	21 25			sw.	E. D. Sorver.
m Springs ** adena o Robles chland	San Luis Obispo	800 190	26 17	60.5	- 2.2 - 1.9 - 1.1	94	30	30 35	1†	52 42	0. 16 1. 46	- 0.42 - 0.16	0. 16 0. 61	0	5	25			nw. sw.	Dr. F. W. Sawyer. E. H. Parnell.
	do.			57.6		90	30	34	3	44 36	0.69	- 0.16	0.40	0	5	13			n.	John Landis.
erville at Lobos at Reyes	El Dorado San Francisco.	1,875	24	60.91	+ 2.9	88	25	38	13	36	2.42	+ 0.23	1.20	0	6					A. E. May.
ar Keves	Marin.	250 490	20 21	51.4	- 0.3 - 0.4	74 73	30 30	46 45	2†	22 25	0.67 0.83	- 0.07 - 0.27	0. 26 0. 52	0	7 5	10			w. nw.	John Hyslop. U. S. Weather Bureau.
nona	Marin. Los Angeles.			62.1		86	22† 24	33	2	25 45	0.14		0.11	0	2	10	4 1	7	sw.	J. E. Adamson.
ona. terville. acy. Bluff.	TularePlumas	464 3,400	24 18	69.8	-0.5 + 0.8	100	24	38 23		44 45	0.95 0.75	+ 0.24	0.71	0	3	24 20				Leslie McAuliff. U. S. Forest Service.
Bluff	Tenama	3,400	36	54.6 68.2	+0.8 + 1.7	85 96	25 31 31	46	1	32	0.75	- 1.51 - 0.38 - 0.76 - 0.41 + 0.18	0.60	0	5	19	6		s. se.	U.S. Weather Bureau.
ding	Shasta. San Bernardino	552	38	68.8	+ 1.6	98	31	33		48	1.48	- 0.76	0.40	0	7	12	19	0	nw.	W. W. Jones.
dlev	San Bernardino	1,352 347	20 13	62. 2 68. 0	- 2.2	89 97	14	35 38	1 1 1 2	44 38	0.30	+ 0.41	0.28	0	2	17			w. n.	W. S. Devol. Santa Fe Co.
lto (near).	Fresno San Bernardino	2,250	7	61.0		87	26 22 5	34	1	35	0.68	0.18	0.36	0	4	27 21	7	3	se.	So. Cal. Edison Co.
erside	Riverside	851	31	63.4	- 1.8 - 2.8	89	5	35	2	47	0.30	- 0.05 + 0.01 - 0.09 - 0.45	0.28	0	2	18 22 20	13	0	sw.	J. H. D. Cox. Southern Pacific Co.
nerville	Placer	249 75	10	65.0 55.0	- 2.8	96 71	26	40 36	1† 13	29	0.98 1.67	+ 0.01	0.52	0	5	20			se. nw.	Dr. R. Callahan.
amento	Sacramento	75 71	36	64.8	+ 1.9	92	25	47		29 37	0.51	- 0.45	0.34	0	5	24	3	4	S.	U. S. Weather Bureau. E. E. Hooper.
Helena	Napa	255	5	61.2		95	30	38	3	45 29	0.94	+ 0.04	0.40	0	5	25	1	5 .		Miss E. Buth Abbett
nas. Bernardino	Napa. Monterey. San Bernardino	1.054	39 21	60.6	+ 0.6	75	30	33	2	50	0.75 0.48	- 0.12	0.66	0	2 2	24 25 27 16	13		w. sw.	Miss E. Ruth Abbott. Dr. A. K. Johnson.
Diego	San Diego	93	42 42	59.7 56.6	- 1.1	68	11	47	2 3 1 2 2 6	15 24	0.07	+ 0.24 - 0.12 - 0.30 - 0.12 - 0.47 + 0.20 - 0.02 + 0.16 - 0.08	0.07	0	1	15	10	6	w.	U. S. Weather Bureau.
Francisco	San Francisco	207	42	56.6	+ 1.1	78	30	48		24	0.63	- 0.12	0.26	0	4	15			W.	Do.
Jacinto	Riverside Santa Clara	1,550 95	20 38 18	64.3	- 0.5	91 89	5 30	34	1	47	0.00	+ 0.20	0.00	0	0	23 22 14	6		w. nw.	E. T. Tanner. U. S. Weather Bureau.
Jose. Luis Obispo	San Luis Obispo	201	18	60. 2 57. 7	+ 1.0	85	16	34	2	38	0.30	- 0.02	0.24	. 0	3	14		4	nw.	Do.
Mignel **	San Mateo	616	39 26	64.8	+ 4.0	90	30 25	50 46	2 1 2 3 7		0.74	+ 0.16	0.46	0	3	24 21	5	-	n.	Southern Pacific Co. Do.
Mateo ** Miguel ** Miguel Island	San Luis Obispo Santa Barbara	500	19	68.1	T 4.0	90	20	40			0.33	- 0.08	0. 33	0						Capt. W. G. Waters.
ger **	Fresno	371	24	70.5	- 0.9	97	24	50	1	27	2.02	+ 1.49	1.44	0	3	21	0 1			Southern Pacific Co.
ta Barbarata Clara	Santa Barbara Santa Clara	130	29 24	56.6 60.2	- 2.7	75 92	11† 30	43 35	2	27 47	0. 19	- 0.24	0.08	0	3 5	21 22 23 22 15			w. nw.	G. W. Russell. Santa Clara University.
ta Cruz.	Santa Cruz	20	40	56.8	- 3.0	76	15†	33	1	39	0. 82	- 0.15	0.50	0	4	22	4	5	w.	W R Springer
ta Cruz. ta Margarita **	San Luis Obispo	996	24	56.8 62.8	+ 1.8	92	19	36	10		0.21	- 0.24 + 0.15 - 0.21 - 0.98 - 0.24 - 0.24 - 0.04	0.21	0	2	15	7 8 4	9	S.	Southern Pacific Co.
ta Monica	Los Angeles	110 181	28	55.7	- 6.4	65 92	12† 30	40 33	1 2 28	20 44	0.10	- 0.24	0.10	0	6	18	8	7	W.	F. E. Hill. Southern Pacific Co.
	Sonoma Fresno	311	07	01.8	- 2.4 - 4.4	97	25	48	20	44	0.40	0.24	0. 40	0	1	20 26	0	7 5 .	o.	Do.

Table 1.—Climatological data for May, 1913. District No. 11—Continued.

			years	Temp	perature	, in (legre	es Fah	renh	neit.	Prec	ipitation	, in in	ehes.	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	wind	Observers,
California—Continued.																				
even Oaks. ierra Madre ierra Madre ierraville. isson. oledad** onora. outheast Farallon. pringville. quirrel Inn.	Siskiyou Siskiyou Monterey Tuolumne San Francisco Tulare San Bernardino	5,000 1,400 5,000 3,555 188 1,825 30 4,000 5,280 2,140	3 16 3 24 39 2 10 6 3	48. 0 52. 6 68. 1 62. 4 52. 0 57. 4 52. 7	+ 1.1 - 2.0 + 5.8	76 82 79 80 80 90 58 88 77	16† 23 21 25† 11† 26 10 25 23	28 45 18 29 60 36 48 33 29	2 2 2 1† 13† 2 4 7			- 0.85 + 0.14 + 0.43 + 0.27 + 0.45	0.38 0.26 0.52 1.04 0.72 1.46 0.79 1.70 1.35	0 0 0 0 0 0 0	1 2 5 7 2 4 4 2 1	22 20 15 19 19 23 12 22 22	0 6 9 9 7 4 5 0 5	9 5 7 3 5 4 14 9 4	w. s. sw. n. n. nw. nw.	M. Lewis. Mrs. A. E. Gregory. C. D. Johnson. Southern Pacific Co. Do. Chas. P. Jones. U. S. Weather Bureau. D. L. Wishon. A. D. Frantz.
tanwood. tirling City tockton (S. H.) torey ulsun ** ulphur Banks. ummit. usanville.	San Joaquin San Joaquin Lake Placer	2,140 3,525 23 296 20 1,350 7,017 4,175	9 9 42 13 33 1 40 24	65.2 64.2 60.8	+ 1.0 + 0.8 + 0.4 + 1.1	92 93 97 88 90 69	26 30 25 3 30† 25	38 42 34 40 40 12	1† 2 1 30 1† 1	43 42 39	3. 30 0. 70 0. 40 0. 51 0. 72 0. 75	+ 0.03 - 0.12 - 0.32 - 1.38	1. 45 0. 44 0. 40 0. 35 0. 45 0. 25	0 0 0 0 0 0 5.0	8 3 1 3 6 4	15 24 28 23 20 11	8 6 0 1 7 2	8 1 3 7 4 18	se. nw. sw. w.	Cal. Gas & Electric Co. Butte County R. R. Co State Hospital. Santa Fe Co. Southern Pacific Co. L. S. Lorenzen. Southern Pacific Co. C. M. Penry.
amarackehachapi**	Alpine	8,000 3,964	7 36	37.9		64	26	20	1†	35	0.95	- 1.86	0.45	5.0	3	21	7	3	s₩.	Cal. Gas & Electric Co. Southern Pacific Co.
ehamaejon Rancho	Tehama Kern	220 1,500	42 10	75.5	+ 6.6	99	30†	50	1†		0.60	- 0.30	0.21	0	4	22	1	8	n.	Do. S. E. Bailey.
Care Rivers. Cowle. Cracy** Crah Piper Lake. acaville acaville Visalia. Varner Springs Varner Springs Vasco. Vatsonville.	Tulare. Placer. San Joaquin Mendocino Lake. Solano Calaveras Tulare. San Diego. Kern. Santa Cruz. Trinity Humboldt. Stanislaus. Yuba Glenn. Orange.	870 3,704 64 620 1,350 175 673 334 3,165 336 23 2,162 1,700 90 84 136	3 27 33 20 28 25 24 25 5 13 17 1 3 24 26 34	66. 0 59. 2 72. 6 60. 7 59. 5 65. 6 69. 4 67. 1 58. 8 58. 4 58. 3 56. 0 74. 5	+ 2.9 + 3.5 + 1.5 0.0 + 1.4 + 3.2 + 1.0 - 1.7 + 4.4 + 1.0	96 84 92 95 93 98 97 89 86 83 89 90 95 94 99 83 90	24 25 25 31 23 30 25 27 25 31 31 25† 31 31 25† 31	31 36 50 31 29 36 55 47 28 30 24 30 59 40 41 40	1 14 1 1 1 2 1 8† 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	41 45 49 42 37 41	0.41	- 0.44 - 0.07 + 0.31 + 0.20 - 0.92 + 0.10 + 0.31 - 0.21 - 0.45 - 0.07 - 0.36 + 0.51	1.65 1.40 0.33 0.66 0.81 0.30 0.82 0.89 0.07 0.52 0.51 1.03 0.42 0.37 0.79 0.16	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 4 3 7 7 4 4 1 2 3 9 7 2 5 6 1 1 3	14 23 21 21 16 24 26 24 22 22 27 17 23 21 21	15 2 8 4 11 4 5 7 19 3 4 0 7 3 5 3	2 6 4 3 0 0 4 6 5 4 7 5 7	sw. ne. nw. nw. sw. nw. nw. nw w w s. se. w s. se.	J. H. Pierce. Southern Pacific Co. Do. Dr. Geo. McCowen. C. M. Hammond. G. O. Coburn. Southern Pacific Co. Santa Fe Co. Mrs. F. S. Sandford. Santa Fe Co. Spreckels Sugar Co. U. S. Forest Service. M. E. Lathrop. Southern Pacific Co. Wm. Lumbard. E. C. Mills. S. J. Walker. J. P. Kelly.

•, b, •, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

**Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

†Also on other dates.

T. Precipitation is less than 0.01 inch rain or melted snow.

Table 2.—Daily precipitation for May, 1913. District No. 11, California.

Stations.	Watershed.			1	_	1	_	1							,	Jay C	of mo	ntn.		,											-	
7/10		1	2	3	4	5	6	7	8	9.	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Oregon.																										1					1, 10	
amath Agency	Klamath																								-				1.15			
amath Agency	Pitt								77	. 28	.20		.10																			
keview	Interior	.04							T.	. 06	T.	T.	.02					. 02	. 21	T.	T.			. 35					. 09			
	drainage.															,								****		1						
stillas	Pitt Interior										.18	. 02	.03					. 01	.51								. 02	. 08				
California.	drainage.				-					.01	.00	****	. 10	****		••••	****		.10	****			****		****			. 00	1		****	****
	Coast						-													3									13			
uangauras	Sacramento.							.02		. 05	. 05	****	.03	****				06	39									01	.14			
gels Camp	San Joaquin																															
igiolatelope Valley	do	****										****																- 44	l			
tioch	do																		19							1	1		.33	3		
tos																												. 54	1			
rowhead Springs. burn	Sacramento.								T.	. 66	****	****			****	****		11								T.	.10		. 05			
alon																					****											
gdad	Coast Desert	****	***		****		****	****	****							****										. 02	. 03		.17			
kersfield	San Joaquin.																			****								.20			1	
rstow	Desert						1		1							1													Т.			
ar Riverar Valley	San Joaquin.						1						****	****					****		****			****	****			1.47	1 .12	2		
ar Valley Dam																													. 28	8		
aumont (near)	do	****																										.08	32	2		
lotta	do			1						99				-					.10							1.00	1	.02		0 .00		****
n Lomond	Coastdo								. 40									. 04	T.									. 50)			
rkeley	do		****	1						. 05								.10	. 25									. 43	1			
(gs	Sacramento.								. 30								. 26											.41				
hop Creek	Owensdo	20	***											****					T.													
eksburg	Coast								. 46	.36	. 53	.13	.04					T.							****	****		37	1 . 16	.10	T.	T.
e Canon	Sacramento.									1.45	.34								. 96	. 26										3 .39		. 03
the	Desert								.32																			T.	.41			
wmans Dam	Sacramento.				1					1.50																		1.	. 80			
nscomb	Coast								. 62	. 52	. 83		, 30					T.	. 04									. 43	. 03	3		
rnev	Desert Sacramento.									.35	.13	.16						T.	.92									.12	10			
tte Valley	do																															
huillaexico	Coast Desert							****	****																			. 02	1000			
iente	San Joaquin.																													1		
istoganpbell	Coastdo								T.	. 54			. 10						.31										. 45	5		
npo	do								****	T.	****		****		****										****			. 56	. 11			
nponptonville (near)	Sacramento.							T.		1.48								. 47	.09	.14								. 15	. 68	3		.01
larville	M't'n Lakes. Sacramento.	05						Т.	T	. 06			20				.20	T.	.33									T.				
co	do								. 05	. 25	T.		. 05				.20	.59								****		. 08				
co (near)	do								. 35		.02		.07					. 22	.07									.27	T.			T.
no	Coastdo		****				****	.00	. 45	.21								.04									. 09	. 17	T.			
00	Sacramento.																												1.			
remontverdale	Coast						· · · ·		20	12	10																T.		. 16			. 19
linga	San Joaquin.						1.		.02	. 10	. 10				****	****		. 11									****	. 83	. 18			
fax	Sacramento.									: :::																						T
gateusa	do		****	****		****	.02	.06		1.25	. 45			****				.09		.24								45	. 81	.09		T.
ning	do								. 14								. 05											.20				
ona	Coastdo																															
visville	Sacramento.									.06				****	****		****												.14			
r Creek	do																															
Monteta	Coast Sacramento.								T.			21					10	. 50														
nair	San Joaquin.																											.40				
Sablascanso	Sacramento.																	. 33	. 45									. 13	. 46	3		
rils Canon	Coastdo																										.02		. 16			
ubabbins (near)	San Joaquin.																											. 82	2			
vnieville	Sacramento.					****				1.32	****	****						.30	. 10	.36		****					1		. 73	T.		· · · ·
llev	San Joaquin.	!																. 03										.20	.03	5		T.
lleys nlap (near)	do									. 20									. 25						2000			. 45	.72	2	T.	T.
nnigan	Sacramento.									. 03								T.									.07	1.83		8		
nsmuir	do								.05	. 93	. 52	. 23	. 41	. 04				T.	. 16					1.03			.06	.04	1			
rhamt Park	do				****				. 33				.08					. 13	. 60											3		
zewood	do									.11	.04		.57	.06				.08	.31	.04						****		.02			****	****
son	San Joaquin.																															
Cajon	Coast San Joaquin.																								2000					8		
ctra igrant Gap	Sacramento.									1.00								. 80	. 75									.26		39		****
ondido	Coastdo							1	1000											T									. 17	7		
rmont	do								. 24	. 03	.38	. 54	.17						.06					.01			.01	. 23	3			
mington	San Joaquin.																															
on	Coast San Joaquin.																							1		1	1	1	1 40	0	1	

Table 2.—Daily precipitation for May, 1913. District No. 11—Continued.

Stations.	Watershed.	-	1	1	1	_	1	1	1	I		1	1	1			1	onth.			1	1	1	1	1	1	1	1	1		1	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
California—Contd.																																
olsom	Sacramento.								T.	. 56	.01							T.	. 12		T.					1			47	. 10		
ordyce Dam	do								. 08	. 95	. 05		. 10	T.				. 72	. 62	. 10								. 15	. 35		T.	.30
ort Bidwell	M't'n Lakes. Coast							. 15	10	T.	T.	T.	T.						. 35									. 10				
ort Ross	do								. 10	.20	.09	. 02																				
outs Springs	Sacramento.																															
resno	San Joaquin.	****							****	T.	****		****				****		. 02			****	****		****			. 23	. 05		T.	T.
alt	do									. 19										2000			****	****	****			****	. 53	. 05		
eorgetown	do																															
ilroyilta	Coastdo		****					****	20	. 05	46	43	****	****		****			1.08			****										
lenn Ranch	do																												.11			
lenville	San Joaquin.																									. 03	T.	T.	. 97			. 15
Henwood	Coast Sacramento.								. 50	1 45	20			70													. 07					
onzales	Coast									. 15	. 30			1.																. 20		
rass Valley	Sacramento.								. 03	1.28								. 35											.77			
reenland Ranch	Desert Sacramento.			****		****		****	T	20	T.	T	17	****														· · · ·	****	. 01		
ridley	do					1111	****	****	T.	. 25																		T.				
roveland	San Joaquin.																															
luinda	Sacramento.								T.																			. 28	. 07			
lead Dam	San Joaquin Sacramento.									1.49								.34	. 14										. 45			.02
fealdsburg	Coast								. 15	. 41	T.	.06						. 12									T.		. 40			. 02
learst	do								. 46	. 51	- 62							. 11	.06									. 65				
leber	Desert								1.20	05	. 61								.07									70				
letch Hetchy	San Joaquin.										. 01							. 24											. 06			
[oleomb	Coast													****								****										
Iollister	Klamath									. 05									. 06										. 75			
lot Springs	San Joaquin.																											T	1. 15			10
fullville	Coast								. 62	. 13	. 37	.01	.07					. 07	. 02									.76	1. 40			. 16
yampon	do																											1				
ndependence	Owens Desert																		T.								. 01		T.	T.	T.	. 30
idio	do																															****
skip	Sacramento.		****						. 15	1.39			. 49					. 39	.37			***					****		. 36			
cheeksonville	San Joaquin.								T.	. 65	20							. 10														
mestown	do									40									30										1 96			T
enny Lind	do				1					20									10												****	
olon	Coastdo																												. 42			
ennedy Mine	San Joaquin.												****															. 32				
ennett	Sacramento.								*	*	1.58		. 24					. 24														
entfield	Coast								. 37	. 15								. 05	. 03									. 61				
ernville	San Joaquin. Coast																															
nights Landing	Sacramento.									. 16								T.	. 00	T.									. 20			
a Grange	do									. 14																		.23	. 41			. 25
a Jollaake Eleanor	Coast San Joaquin.	. 02	****	****			****			****	****			****		****												. 06	. 52	. 13		
akeside	Coast																															
ake Spaulding	Sacramento.								T.	1.20			. 05					. 75	. 55									. 26				
a Porteathrop	San Josephin								T.	1.54	T.	T.	. 12					1.01	. 63	. 15								. 23	. 41	T.		T.
aurel	San Joaquin. Coast	****	****	****			****	****	T.	65			****	****	****			****	. 18	10							Tr.	10	. 60	T.		
e Grand	San Joaquin.									. 00							****			. 10	****	****	****				1.	. 56			****	
emon Cove	do				4.														T.								T.,	1.25				
ick Observatory	Coastdo	01							.09																						****	
one Pine	Owens		COON				****	****	. 08	***		****	****	****	****		***	. 03	.08		****	****	****		****	07		. 30	.07		15	10
ong Valley	M't'n Lakes.																												.07			
ordsburgos Alamos	Coast																															
os Angeles	do																												. 05			
os Banos	San Joaquin.																												.00			
os Gatos	San Joaquin. Coast								T.	. 25								T.	.06				****						. 03			
os Molinos owe Observatory	Sacramento. Coast		0000																													
eCloud	Sacramento.								. 43	. 95	. 59	T.	. 58					. 16	.34							Т.		T			****	****
ardoel	Klamath								. 15	. 12			. 11						. 80													
adelineagalia	M't'n Lakes.						T.	. 10	T.	.06	. 03	. 03						. 20	. 12	T.	T.			T.								
ammoth Tank	Sacramento. Desert								. 95										.57									. 86		****		****
aricopa	San Joaquin.																					****				. 07						. 12
ariposa	OD																	. 17											. 91			. 13
ary sville	Sacramento.											****																				
elones:	Desert San Joaquin.										. 18								.24										1. 12			
enlo Park	Coast									T.								T.	T.									. 44				
erced Falls	San Joaquin.									T.									T.									T.	. 55	T.		
esa Grande	Coast		.01							. 03																		.73		****	T.	
iddlewater	San Joaquin.																											1.	. 60			
ill Creek (1)	do									. 75									. 58									.37	.74	T.	. 03	
ill Creek (2)	Coast																												. 92			
ills College	San Joaquin.																											. 39				
ilton (near)	do									.39															****	****	****	. 23		. 27		T.
odesto	do		****						T.																			T.	. 45			
ojaveokelumne Hill	Desert																															
	San Joaquin. Coast									.51									. 27									. 79				
ontague	Klamath								T.	T	. 07		. 45						. 19					• • • •			T.	T.				
	Coast												457						TAUL.		****											

Table 2.—Daily precipitation for May, 1913. District No. 11—Continued.

ML-11	Watershed.								•						1	Day	of mo	nth.									ren'					
Stations.	watersned.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
alifornia—Contd.																								- 10	11							
ontgomery Creek.	Sacramento.									. 84			. 67						2.00									. 25				
ount Tamalpais ount St. Helena	Coastdo							. 02	. 20	.07	.01		.01	****				.06									. 10	. 59	. 02			
pa City	do	***							. 04	. 18								T.	. 10									. 20	.08			
apa City	Desert								. 18									. 05									.02	.30				
edles	Coast																												1.20			
vada City	Sacramento.								T.	1.07	. 01		T.					. 32	. 10	. 02								. 05	1.01	.01	T.	
vis	do										. 15	. 05	. 25					. 58	. 10										. 24			
whallwman	Coast San Joaquin.																		06										79			
rth Bloomfield	Sacramento.								1.60									. 55	T.	. 15								T.	.80			
rth Fork	San Joaquin.																		. 18									1.10				
rth Lakeport	San Joaquin.								. 22	. 03	. 11							. 10										. 84			T	
k Grove	Coast																											.03				
kland	do								. 04				****					. 07	. 05									. 27				
kville	do									. 32			. 10						T.	·m·				• • • •		.03	. 06	. 05	. 56			.02
i Valley	do																									.00	T.	.10				.02
and	Sacramento.							. 05	.09		. 08						. 10		.01									. 42				
eansville (near)	Sacramento.							. 03	.32		. 48 T.	.71						15	.04								. 13	.12				
na	Coast																															
ermo	Sacramento. Desert									. 45																		- 50	1.00			
m Springskfield	Coast	1																										. 28			• • • •	
sadena	do																										.01					
so Robles	do							T.																					. 16			
chlandaluma	do							1.	. 46		. 08							. 07										. 61				
penix Dam	San Joaquin.																			. 23				.04				. 40	.02		. 14	
ot Creek	Sacramento.															****		****														
e Crest	do		***	****					****							****		****	T.							****	T.	. 23	.21			
cerville	Sacramento.									1. 20	. 12								.25		****				****	****	1.	. 23	.75		.02	
nt Lobos	Coast						T.			. 18								. 04	.08								. 01		. 02			
nt Lomant Reyes	do				****	01	T.		.16			. 01					T.	.06	.08								.01			. 13	****	
nona	do					.01	1.		. 10	****	****			****		****		.00	.00	****	****	****			****	****	T.	. 52 T.	.11	.03	****	****
terville	San Joaquin.																											.71				. 24
est Valley	Coast Sacramento.																											T.	. 48	. 03		
Bluff	do						1111		. 21		. 03		15			****		T.	. 10		****				****	****		. 22	****		****	
lding	do								.21	.40		. 27															. 40					
llandsdlev	San Joaquin.																											. 02				
oressa	Sacramento.		****					****	58									. 12						****				.26	.83			
lto (near)	Coast																									. 27	. 02					
Vista	Sacramento.									. 07									. 10										.34			
klin	Sacramento.	****	****						****	.46		****						****		****	****			****				. 02	. 28			
nnerville	Coast							1::::	.14			T.	. 68											****			****	.25				
th	Sacramento.								. 20			.01	.31						.01									. 29				.01
ramento	Coast	****	****					.03	.06									.07								****		.31		****		
inas	do							.00	. 40	. 09								. 10								****		. 30	.66			****
Bernardino	do																											. 05	. 43			
Diego	do						T.		. 15									19	Т.		****		****					.26	.07			
Jacinto	do								. 10		****				****	****	****	. 10			****			****				. 20		****	****	
Jose	do								. 04				T.					.06										. 66				
Luis Opisbo	do					****			10	. 03					10				T.								T.	. 20				
Miguel	do											1															T.	. 46				
Miguel Island	Ocean																									1.2.						
ger	San Joaquin.											1														1						
ta Ana River ta Barbara	do				****				****							****		****						****			.06	.08	. 99		****	
ta Clara	do								T.	. 01								.07	.04								.00	. 64				
ta Cruz	do	****							. 15			1			1			. 15									.02	. 50				
ta Margarita ta Monica	do																										****	*	. 21			
the recession and a second	(10)			1		1				32.5	1 (12)	21 635			1				99		1						****	.04				
santo									1	34	1	1			1		1		0.4		1							. 11	. 20			
na en Oaks	San Joaquin. Coast	****	****													****	****									T.		. 40				
rely																										1	****	T.		****		
la maule									1																		. 09	T.	. 26			
raville	M't'n Lakes. Coast	1	1	1000			1		02				1	1			1		40	1		1	1						. 52	. 05	. 03	
on	Sacramento.						****		1.04	.48	. 21	. 18		. 07				. 29			****			.11				****		****		
dad	Coast					1	1																					*	. 72			
oratheast Farallon.	San Joaquin. Ocean						m			. 58									. 16									T.	1. 46		T.	. 05
eckels	Coast								. 06									. 07	. 04									. 78				
ingville	San Joaquin.																									T.	T.			12		
irrel Inn	Coast																												1. 35			
ling City	Sacramento.								1. 45	T	20	0.00	35				****	25	. 55		****					****		95	. 20			
kton (S. H.)	San Joaquin.									. 11									. 15									. 40	. 44	T.		
ey	do					1		1	1				1				1	T.											. 40			
ohur Banks	sacramento.								T.	. 05	0"		T			****		T.	.11		****			****			T.	. 35				
ohur Banks	do								. 02	. 20	T		1.10					T.	. 20		****			****		****		T. 45				
	M th Lakes.																			1												
naraekachapi	Sacramento . San Joaquin.		10000			1	1		1		1		1														. 20		. 30	1		
ama	Sacramento.					****		****	***				****					****		. 21												

Table 2.—Daily precipitation for May, 1913. District No. 11—Continued.

															r	ay o	f mo	nth.	-													
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
California—Contd.																																
ree Rivers	San Joaquin.																									T.	T.		1 65	T	T	
wle	Sacramento.		1	1	1				02	1 40								T	85									T.	. 20		4.	***
acv	San Joaquin.			1		****			. 02	02				****		****			. 00	18		****		****		****	****	**	23	****		
lare	do			1																								T	55		****	
istin (near)	Coast																											T	13			. 0
iah	do	1		1					35																			66	02		****	
per Lake	Sacramento.								17	. 11	04		03															81	02			
per Mattole	Coast							****										. 10	. 04	T									. 13	00		
caville	Sacramento.								. 03	. 00	7	. 11	. 01		1.			07	T	1.							01	30	. 10	. 02		
lley Springs	San Joaquin.								T	. 46	1.							TO	19								.01	T	90	. 05		
salia	do																	T.	.12		- +							T	90	. 00		***
arner Springs	Coast		01															1.										1.	. 09			
asco	San Joaquin.		. 01	****																									. 07			
atsonville	Coast.		****	****	****		****	****	00	****																	****	50				
eaverville	do								. 00	90	10							.00										. 02	01			* * * *
eitchpec	T/lemeth								. 23			. 02							. 04									. 31	. 01			T.
	Klamath																		.07									. 18	000			
est Branch																												- 12	. 30 .			
stley	San Joaquin.																											. 42				
st Point	do																															
st Saticoy	Coast																								. 05							
neatland	Sacramento.								T,									. 19	. 10									. 04	. 22 .			T.
llows	do								. 04	. 06																			. 12			
rba Linda	Coast																												. 16 .			
semite	San Joaquin.	. 04																T. :	1. 20								T.	T.	. 72 .			

* Precipitation included in that of the next measurement.

\$ Separate dates of falls not recorded.

Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

Table 3.—Maximum and minimum temperatures for May, 1913. District No. 11, California.

														Ca	liforni	a.												
Date.	Lake		Altu	ıras.	Bars	tow.	Bra		Brav	vley.	Col	usa.	Eur	eka.	Fres	no.	Inder		Ange		Moi Tama		Nev Cit		Port		Re	
	Max.	Min.																										
1 2 3 4 5	45 54 62 66 73	21 27 27 28 34	51 58 66 73 79	26 29 27 31 32	62 70 76 80 84	40 42 44 40 43	65 70 75 78 77	30 33 38 43 40	75 79 85 89 91	50 49 53 54 58	77 79 81 83 86	39 41 45 47 53	51 54 53 56 52	42 39 46 47 46	70 75 80 87 92	40 46 48 56 55	59 65 73 76 80	33 29 36 42 44	65 66 69 70 73	49 49 50 52 47	56 64 68 75 67	41 47 56 59 54	65 72 76 79 83	25 30 32 37 40	73 80 90 92 96	38 41 46 51 53	66 75 83 88 87	46 51 51 60 55
6 7 8 9	75 68 68 58 54	38 45 38 38 39	81 76 66 61 59	37 46 33 42 40	86 80 81 81 79	51 42 40 42 46	68 62 60 62 57	39 42 45 45 45	94 92 90 93 95	60 60 50 55 55	84 79 75 75 75	52 49 50 49 50	52 64 63 64 59	46 49 54 53 49	84 74 79 77 76	54 50 51 57 52	80 75 78 78 80	45 44 44 44 43	68 67 69 68 72	51 52 50 52 51	58 47 48 53 55	40 40 45 44 45	79 74 67 64 63	40 38 35 45 41	91 90 84 85 89	55 48 48 55 50	85 72 68 69 69	53 49 52 56 52
11 12 13 14	56 50 55 63 60	29 36 28 26 40	57 56 60 69 68	30 29 28 27 37	84 80 76 79 84	45 41 48 46 48	59 58 59 63 69	40 35 30 33 35	95 95 89 90 93	55 57 57 59 54	75 70 75 80 82	45 52 44 47 50	59 54 55 57 58	45 42 43 42 52	79 72 77 82 84	50 52 48 49 50	79 76 72 74 81	45 47 41 44 46	75 69 68 71 75	54 51 53 52 50	59 51 59 63 64	43 39 40 47 47	66 63 70 73 75	33 34 31 33 38	88 78 80 85 92	48 46 45 47 49	67 68 74 78 81	46 48 48 49 53
6 17 18 19	63 63 53 59 63	32 39 31 30 32	71 67 60 68 72	46 45 37 32 37	91 93 83 85 88	49 46 41 45 44	72 62 62 68 70	38 39 46 47 48	96 94 93 89 91	56 61 59 59 56	85 82 75 78 81	63 50 52 49 53	56 61 57 57 57	51 48 49 50 51	90 85 79 78 84	57 60 57 54 55	84 84 73 76 80	52 52 60 42 46	75 70 64 66 66	54 54 56 53 53	70 59 57 62 66	54 46 46 47 52	80 66 63 74 77	41 45 48 36 42	93 92 93 83 88	54 56 50 51 54	85 72 70 81 81	59 62 56 52 59
21 12 13 14 15	72 79 75 74 77	35 44 45 46 41	82 84 83 82 85	37 43 45 47 41	93 95 96 98 96	48 52 50 52 50	74 83 82 80 80	48 54 50 50 44	93 95 94 97 96	59 60 69 65 61	86 87 89 91 90	54 60 56 57 57	55 56 56 58 59	50 50 51 50 49	89 93 94 96 98	54 59 60 60 61	85 88 89 89 89	54 54 57 57 56	70 70 76 76 68	54 55 54 55 56	66 71 73 70 74	54 56 56 60 62	79 83 87 87 88	43 44 44 44 45	92 92 96 100 97	53 52 55 66 64	89 89 93 93 95	60 60 61 67 64
26 27 28 29 30	81 74 55 68 74 77	44 46 44 33 41 47	87 81 55 71 80 85	42 40 45 37 44 45	91 84 74 80 83 90	51 48 44 46 48 51	63 56 64 78 90 86	43 43 40 42 45 47	92 77 85 92 91 93	60 62 54 57 60 56	89 82 84 86 92 93	58 55 53 53 62 63	58 56 56 55 59 60	50 50 50 45 45 48	98 74 66 73 87 91	62 54 51 54 58 66	84 79 59 74 74 72	55 51 48 46 48 45	64 64 66 68 72 66	55 55 53 53 52 55	70 47 55 71 78 75	46 42 42 48 63 60	88 59 53 78 83 86	46 46 43 39 43 52	98 79 63 73 83 92	61 56 50 58 62 61	93 67 73 87 94 96	62 55 55 59 70 66
Mns	65.0	36.3	70.7	37.3	84.0	45.9	69.4	41.8	90.7	57.4	82.2	51.9	57.0	47.8	82.7	54.2	77.6	46.8	69.2	52.6	62.9	49.1	74.2	39.8	87.3	52.4	80.3	56.

												Cal	ifornia.													
Date.	Redl	ands.	Sacrai	mento.	San I	Diego.	Fran	an cisco.	San	Jose.	San Obi		Sar Bark		Santa	Rosa.	Siss	son.	Stock	cton.	Sum	mit.	Susa	nville.	Yose	mite.
	Max.	Min.	Max.	Min.	Max.	Min.																				
1 2 3 4 5	66 70 74 78 85	38 35 40 42 45	67 74 82 84 87	48 47 50 50 50	63 59 63 63 65	49 47 49 52 52	62 68 65 64 58	50 48 49 49 50	67 73 81 81 71	36 37 40 48 47	62 69 73 66 70	38 34 36 46 45	65 60 65 64 62	. 45 43 44 48 46	65 76 80 75 68	34 33 37 40 50	49 60 70 75 75	29 36 37 39 42	70 75 83 84 83	43 42 46 49 50	38 45 52 56 60	12 22 30 32 33			63 65 72 84 80	15 18 15 20 28
6 7 8 9	79 72 74 76 78	45 43 42 45 42	73 67 72 69 70	48 49 51 56 52	62 63 64 64 65	55 56 56 53 56	55 63 65 64 63	48 52 55 54 53	67 70 72 71 70	51 47 52 58 48	62 65 71 68 68	45 41 49 53 52	60 65 65 69 68	50 44 45 51 46	63 64 68 67 67	46 48 48 49 49	76 62 48 48 55	43 42 41 40 29	73 71 75 72 70	48 45 49 57 57	60 58 50 42 42	35 36 30 28 34			85 84 76 71 72	30 29 23 30 28
11 12 13 14 15	75	45 45 45 45 46	73 69 74 76 81	47 49 48 47 49	68 64 65 65 66	53 55 53 56 56	63 60 62 59 60	51 51 49 49 50	69 65 70 68 73	42 46 41 41 43	77 66 66 68 77	52 48 48 43 43	75 75 68 70 67	48 46 46 46 50	70 68 71 70 71	40 40 37 37 40	54 52 50 57 65	33 32 32 30 37	74 70 75 77 80	47 48 46 49 49	46 38 50 52 56	27 27 25 30 30			71 74 70 71 74	28 24 16 18 23
16 17 18 19 20	80 74 72	50 45 53 53 53	187 75 70 77 81	53 57 52 49 50	65 63 65 64 64	55 55 58 58 57	69 68 63 61 59	48 51 51 51 51 50	80 73 70 71 68	50 50 54 51 48	85 65 65 64 62	47 49 52 51 50	65 62 60 64 60	52 53 55 47 46	84 73 69 71 71	40 49 40 40 43	56 65 63 65 68	36 42 31 38 38	86 79 72 77 79	51 56 54 50 50	58 48 42 52 58	34 34 34 34 34			84 80 70 72 75	22 31 33 22 23
21 22 23 24 25	85	53 52 55 58 52	82 88 88 85 92	50 52 52 53 55	65 67 67 64 65	58 59 58 57 57	57 62 60 59 62	49 50 49 50 50	67 75 75 75 75 80	48 46 49 49 48	68 73 73 72 69	51 45 49 50 46	62 65 70 64 59	46 48 51 53 53	72 75 78 78 78 83	42 42 43 44 42	77 79 77 79 80	43 48 41 42 45	81 85 87 89 92	52 52 51 55 54	62 65 68 68 69	38 40 39 40 40		1	80 87 85 89 90	24 32 31 32 35
26	72 67 66 70 83 79	52 52 53 48 50 50	81 64 66 84 90 90	56 53 52 54 60 62	64 66 62 65 66 62	57 57 56 56 54 58	59 59 65 66 78 62	51 51 51 50 54 52	75 66 65 78 89 83	48 51 50 47 51 56	60 57 60 68 76 71	52 51 50 46 47 50	58 60 64 64 63 60	53 54 52 45 48 54	66 58 72 80 92 77	42 52 50 45 51 49	76 70 58 70 78 80	42 40 41 45 55 54	85 66 72 88 93 92	56 57 51 53 50 63	67 58 49 56 58 59	38 40 32 40 39 40			89 70 51 70 76 74	38 50 26 23 28 26
Mns	76. 9	47.5	78.0	51.6	64.3	55. 1	62.6	50.5	72.8	47.5	68.3	47.1	64.5	48.6	72.3	43.3	65. 7	39.5	79.2	51.0	54.3	33.1			75.9	26.5

*, b, c, etc., indicate respectively 1, 2, 3, etc., days missing from the record.

§ § Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

CLIMATOLOGICAL DATA FOR MAY, 1913.

DISTRICT NO. 12, COLUMBIA VALLEY.

EDWARD A. BEALS, District Editor.

The weather during the month was on the whole favorable for agriculture, transportation, and construction work. No very high nor very low temperatures occurred. The forepart of the month was cool, but no damaging frosts formed, and the last week or ten days were warm. During the warm period the snow in the mountains melted rapidly and the smaller tributaries of the Columbia River reached flood stages and inundated large areas of bottom land. The main stream rose rapidly, but no flood stages were reached except in the neighborhood of Vancouver and Portland, and at those places ample warnings prevented any damage being done to movable property. There were no serious delays to transcontinental traffic, but some interruptions took place on branch lines, especially in Montana and Idaho. During the last half of the month there were many thunderstorms in the mountain regions, and some of them were attended by heavy rains, partaking of the nature of cloudbursts. These cloudbursts did damage locally, but they occurred in such sparsely settled localities as to attract little attention. On the whole the soil is well moistened, notwithstanding the slight deficiency in rainfall and the absence of sufficient precipitation in April to offset the drying winds of that month. This condition was brought about not so much on account of the quantity of rainfall in May, but in consequence of its falling opportunely in the principal agricultural sections. In the dry-farming districts the deficiency noted in April has not been made up, and the outlook is somewhat discouraging.

TEMPERATURE.

The forepart of the month was characterized by low temperatures in nearly all sections and the closing days by unusually high temperatures. Frosts formed in exposed localities and caused some damage to fruit and garden truck, but as a rule they were not heavy enough to cause much harm. Minimum temperatures below freezing were recorded at all Montana stations and at a large number of stations in Washington, while in Idaho there were several pronounced cold periods, during which the temperature at many stations fell as low as has every been recorded at the same point in May. Temperatures below freezing were also recorded at many Oregon stations on the 1st.

The high temperatures of the last decade in a measure compensated for the lack of warmth in the first two decades and brought the mean temperature for the district to slightly above normal. During this period of high temperature maxima of 90° and above were recorded on the 23d in Wyoming, on the 26th in Montana, Idaho, and Oregon, and on the 31st in Washington and Oregon.

The mean temperature, as determined from the records of 273 stations, was 54.3°, or 0.4° above normal. The

highest temperature, 99°, was recorded on the 26th, at Glenns Ferry, in southwestern Idaho, at an elevation of 2,569 feet, and the lowest temperature, 10°, occurred on the 1st, at Cliff and Whitaker, which are contiguous stations in central Oregon, at elevations of 4,300 and 4,250 feet, respectively. The greatest daily range in temperature was 59°, at Bedford, Wyo., at an elevation of 5,900 feet. The highest monthly mean, 63.2°, was recorded at Guffey, Idaho, and the lowest monthly mean, 45°, at Landore and Pierson, Idaho, and Bumping Lake, Wash.

The following table shows for comparative purposes the mean temperature and departure from normal for the States of Oregon, Washington, and Idaho, and those portions of Montana and Wyoming in district No. 12 for the month of May during the last five years:

	Ore	gon.	Washi	ngton.	Ida	ho.	Mont	ana.	Wyor	ning.
Years.	Mean.	De- par- ture.	Mean.	De- par- ture.	Mean,	De- par- ture.	Mean.	De- par- ture.	Mean.	De- par- ture.
1909 1910 1911 1912	51.8 57.2 51.2 55.2 54.4	$ \begin{array}{r} -2.4 \\ +3.3 \\ -3.0 \\ +0.8 \\ +0.7 \end{array} $	53.4 58.1 52.7 56.9 54.6	$ \begin{array}{r} -2.2 \\ +2.5 \\ -2.7 \\ +1.6 \\ -0.3 \end{array} $	50. 2 54. 9 50. 7 52. 7 55. 2	$ \begin{array}{r} -2.8 \\ +2.0 \\ -2.4 \\ -1.3 \\ +1.6 \end{array} $	47.3 53.5 47.6 50.8 50.6	$ \begin{array}{r} -3.0 \\ +2.7 \\ -2.2 \\ -0.4 \\ -0.2 \end{array} $	41.4 45.7 44.2 42.2 48.2	-2.8 +0.9 -0.3 -2.4 +2.3

PRECIPITATION.

The precipitation was irregularly distributed and generally less than the average in nearly every portion of the district, except in western Idaho, a few localities in Washington, and in northeastern Oregon, where it was somewhat above normal. The first week was practically without rain, except in the coast and Sound portions, and there was a general absence of precipitation from the 20th to the 25th and from the 28th to the close of the month. The wet periods were from the 8th to the 18th and on the 26th and 27th. The snowfall during the month was over 14 inches at Hat Creek, Mont., at an elevation of 6,000 feet; 3 inches fell at Alta, Wyo., and 2.5 inches in the mountains of southwestern Oregon. At the end of the month the snow was still of considerable depth in the gulches and on the northern slopes of the high mountain peaks, but the warm weather of the last few days caused rapid melting, and a consequent rise in the waters of the principal rivers and their tributaries.

The average precipitation for the district, as computed from the records of 375 stations, was 1.77 inches, which was 0.33 inch less than normal. The greatest 24-hour rainfall, 1.98 inches, occurred at Wallace, Wash., on the 9th. The greatest monthly amount, 8.03 inches, was recorded at Quiniault, a station in the Olympic Mountains near the coast, in the State of Washington. Only a trace of precipitation was reported from Mountainhome

and Sunnyside, in the Snake watershed of southwestern

The average monthly precipitation with departure from normal for the month of May during the last five years is also shown in the following table, for the States of Oregon, Washington, and Idaho and for those portions of Montana and Wyoming in district No. 12:

	Ore	gon.	Wash	ington.	Ide	ho.	Mon	tana.	Wyon	ming.
Years.	Mean.	De- par- ture.	Mean.	De- par- ture.	Mean.	De- par- ture.	Mean.	De- par- ture.	Mean.	De- par- ture.
1909	1.79 1.66	-0.38 -0.68	1.82 1.56	-0.62 -0.64	1.52 1.42	-0.25 -0.42	1.56 2.20	-0.81 -0.43	2.62 2.09	-0.3 -1.6
1911 1912 1913	3.46 2.72 1.77	+1.38 +0.21 -0.41	3.33 2.04 1.99	+1.10 -0.06 -0.30	2.44 2.20 1.50	+0.15 $+0.41$ -0.03	2.09 2.39 1.62	-0.95 +0.06 -0.81	2. 24 2. 44 2. 34	-0.2 -0.6 -0.6

THE RIVERS.

The rivers were above normal in May at nearly all points. The annual rise in the Columbia and Snake Rivers began early in the month. Up to the 5th and 6th these streams had been falling, but thereafter there was a continuous increase of flow, and the highest stages of the month in the Columbia occurred on the 31st, with the water still rising. In the Snake the highest water passed Lewiston on the 28th and Riparia on the 29th. The stages recorded on these dates at Lewiston and Riparia, 19.7 and 18.6 feet, respectively, were the highest since 1899. On the Pend Oreille and Kootenai Rivers, although the highest water had not occurred by the end of May, the stages reached on the 31st were above the average high-water mark. The Columbia above the Snake River confluence had not reached the average height of the annual flood, but below the Snake River, and due to its influence, the stages on the 31st exceeded the flood heights of the three preceding years.

The Cascade Locks were closed on May 30 at a stage of 28.9 feet and with water at The Dalles reading 35.9 feet on the gage. The 15-foot mark at Portland, which is reckoned as the flood stage, was reached by back water from the Columbia on May 25. The stage at the close of the month was 20.4 feet. All the lower docks were flooded and water was beginning to seep into cellars within a few blocks of the water front. Inundation of

low-pasture and truck land along the lower Columbia was imminent, and dairymen were preparing to move their stock to other pasturage.

Financial loss due to the rising water was slight up to the close of May, and at that time the most threatening aspect of the flood was in its possible effect on the railroad and telegraph companies operating along the lower Columbia, since roadbeds and poles would be in danger should the water go much higher.

MISCELLANEOUS PHENOMENA.

Thunderstorms, in some instances accompanied by hail, were of frequent occurrence in the western part of the district during the second and third decades. Some damage was caused by hail on the 9th in Pierce County, Wash., and the cooperative observer at Crescent, Oreg., reported that "during a thunderstorm on the 26th hailstones fell about the size of ordinary hazelnuts. These stones were very hard, cutting the foliage and seed cones from the pine trees to a considerable extent. Settlers can give no record of any such storm occurring in the next."

Killing frosts during the first decade were reported from a few scattered stations in Montana, Idaho, and Oregon; otherwise the month was exceptionally free from frosts of this character.

The prevailing winds were from the northwest, and while they were frequently high in the eastern part of the district, they were not of a destructive nature. The highest velocity for any five-minute period was 56 miles from the southeast, at North Head, Wash., on the 9th.

Lightning was the cause of one death, at Nampa, Idaho, and was also of considerable damage to properly in that place.

A belated report from the special meteorological observer at Medford, Oreg., confirms the statement in the March, 1913, summary from the cooperative observer at Harbor, Oreg., relative to an earthquake shock experienced on the 15th of that month. The report from Medford states that—

On March 15, at 12.40 p. m., I felt two distinct shocks, the first being about one second in duration and the second about three seconds in duration. My office building building rocked considerably, the most perceptible shock being felt in the elevator cage. A few other people in the building noticed the quake, as well as others in different parts of the city and valley.

Table 1.—Climatological data for May, 1913. District No. 12, Columbia Valley.

			years	Temp	perature	, in	degre	ees Fal	ren	heit.	Prec	eipitation	, in in	ches.	days,		Sky.		direc-	11240
Stations.	Counties,	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind	Observers.
Montana.	-																			
Anaconda Butte Columbia Falls. Como Dayton Deer Lodge East Anaconda Fortine Hamilton Hat Creek Haugan Heron Kalispell Lübby Missoula Ovando Philipsburg Plains. Pleasant Valley Polson St. Ignatius	Flathead Deer Lodge do. Lincoln Ravalli Powell Missoula Sanders Flathead Lincoln Missoula Powell Granite Sanders Flathead do. Missoula Missoula Missoula Missoula Missoula Missoula Missoula Missoula	3,700 4,529 5,500 2,975 3,575 6,000 3,150 2,261 2,965 3,225 4,207 5,275 2,475 3,500 2,700	11 18 17 4 8 1 1 7 7 7 10 3 1 1 1 1 1 4 3 3 3 3 1 3 1 3 5 5 7 7	50. 4 54. 6 51. 2* 47. 3 48. 6 53. 2 49. 8 52. 2 50. 9 52. 2 52. 4 48. 2 49. 0d	+ 0.3 - 0.5 + 0.3 + 0.1 - 0.1 - 1.3 - 1.2 + 0.7 + 0.4	87 83 81 87 87 82 85 ^d 85 79	26 31 26 31 26 31 26 31 26 31 26 26 31 26 26 31 26 31 26 31 26 31 26 31 26 31 26 31 26 31 26 31 26 31 26 31 26 31 26 31 26 31 31 26 31 26 31 26 31 31 26 31 31 26 31 31 31 31 31 31 31 31 31 31 31 31 31	19 17 22 27 24* 20 17 26 25 25 19 26 24 17 ^d 23 23 25 24 27 24	1 1 1 1 1 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1	34 47 41 51 45 37 50 45 45 49 40 42 33	1.18 1.48 1.60 1.12 3.04 1.43 2.55 0.92 0.55 1.44 1.78 1.66 1.72 1.53 1.47 2.96	- 0.50 - 1.11 - 1.34 - 0.69 - 0.64 - 1.00 - 0.01	0. 32 0. 36 0. 34 0. 30 0. 45 0. 60 0. 25 0. 20 0. 28 0. 20 0. 34 0. 25 0. 44 0. 48 0. 60 0. 55 0. 65	4.0 2.0 0 2.0 0 2.5 4.0 0 2.0 14.1 0.5 0 0 0 0 2.0 14.1 0.5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	5 11	6 5 13 10 18 7 6 7 11 4 12 11 10 12 6 0 19 d 7 14 12	3 31 2d 19 	4 11 10 9 13 0 4 10 14 13 8 8 8 10 14 ^a 12 0 6 ^d 5	sw. w.	C. D. Demond, J. R. Wharton, J. M. Grist, Hiram Platt, A. J. Ruechell, H. B. Grant, C. D. Demond, Mike Petery, Hamilton Chamber of Com M. K. Landreth, U. S. Forest Service, E. Knott, U. S. Weather Bureau, U. S. Forest Service, U. S. Weather Bureau, S. B. Muchmore, G. T. Bramble, James M. Self, A. D. Stillman, F. P. Brown, U. S. Reclamation Service
Saltese. Stevensville. Thompson Falls. Trout Creek. Victor. Willow Glen Stock Farm.	Ravalli	2,462 2,375	8 1 1 1 1 2	49.1 51.8 54.8 49.6		89	26 31 26 25	24 25 30° 13	17	42 48 43° 45	2.39 0.96 1.52 2.86 0.72		0.33 0.41 0.90	T. 0 T. 0	13 8 12 10 8	13 25 12 19 14 15	0 3 6 0 5 1	18 3 13 12 7e 15	n. s. w. sw. nw. ne.	E. K. Tarbox. University Orchard Co. U. S. Forest Service. James Hylent. R. W. Fisher. G. E. Luce.
Wyoming. Afton	Yellowstone Park. Lincolndo.	6, 200 6, 500 6, 500 5, 900 6, 770 7, 000	9 3 1 13 1 7	49. 0 47. 3 48. 4 43. 4 42. 5	+ 2.3	93 73	26 26 23 26 26 26	20 20 20 15 12	2 2 3 3 3	59 39	3.20 2.18 1.88 3.07	- 0.60		2.5 3.0 3.0 2.0 2.5 3.0	8 13 11 11 17 14	13 8 8 16 1 11	5 5 21 8 14 11	13 18 2 7 16 9	sw. sw. w.	A. V. Call. Mrs. Lucy Brown. U. S. Army. C. G. Heiner. U. S. Reclamation Service U. S. Army.
San Jacinto	Elko		8	50.2		85	27	15	11	60	0.82		0.29	0	5	15	10	6	e.	F. W. Marchant.
Utah. Standrod	Box Elder		8	53.2		80	26	25	1	34	2.04		1.33	0	7	19	7	5	sw.	T. B. Jones.
Idaho. Albion Almo American Falls Arrowroek Blackfoot Blackfoot Dam Bogus Creek Boise Bonners Ferry Boulder Mine Buhl. Caldwell Exp. Station. Cambridge. Cedar Creek Dam Chesterfield Clarks Fork Coeur d'Alene Council. Culdesac Deary Dent.	do. Power Boise Bingham Bannock Boise Ada Bonner Boise Twin Falls Canyon do. Washington Twin Falls Bannock Bonner Kootenai Adams Nez Perce Latah Clearwater	4,341 3,100 4,503 6,200 2,739 1,850 3,800 2,372 2,651 5,220 5,424 2,084 2,157 3,059 1,520 2,854 1,350	10 3 21 1 1 17 3 4 4 27 6 3 6 6 8 1 17 2 16 1 18 1 4 1 7	50. 4 55. 0 49. 2 59. 0 50. 4 57. 8 58. 8 57. 4 57. 6 52. 8 52. 4 57. 4 56. 6 55. 7	+ 1.9 + 1.4 + 1.9 + 3.8 + 2.1	95 85 78 94 82 89 94 95 95 82 79 90 91 86	26† 26 26 26 31 23 26 26 26 26 27 28 29 20 20 20 20 20 20 20 20 20 20 20 20 20	29 30 13 28 24 27 27 29 21 30 30 29 30 27	2 2 3 3 1 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1	47 43 36 40 45 47 46 50 45 38 43 40 43	0.10 2.53 2.50 1.81 0.58 2.09 1.79 1.58 1.02 1.04 1.26 1.26 1.39 1.82 1.80 2.50	+ 1.00 - 0.71 - 0.34 - 0.67 - 0.02	1, 40 0, 10 1, 25 0, 65 0, 72 0, 34 0, 76 0, 72 0, 67 0, 49 0, 48 0, 54 0, 68 0, 72 0, 68	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	7 7 6 11 8 3 8 8 12 6 10 7 10 14	24 22 18 8 9 4 7 21 15 15 6 10 5 10	1 5 10 20 4 26 14 4 15 12 20 11 17 20 13 11 17	6 4 3 3 3 18 1 10 6 1 4 5	W. SW. W. SW. W. W. SW. W. W. W. SW. SW.	C. E. Bocock. Wm. D. Cahoon. Geo. Stoll. U. S. Reclamation Service E. A. Dowd. S. C. Waddell. F. P. Ingraham. U. S. Weather Bureau. W. H. Heideman. Patrick Moriarty. S. C. Orr. Rev. Wm. J. Boone. Caldwell Exp. Station. Chas. H. Shepherd. Robert Hoffman. Chas. S. West. Wm. Potter. J. H. O'Rourke. F. L. Featherston. Mrs. B. B. Caldwell. W. J. Davis. Emil Schuessler.
Driggs	Fremont	6,097 $2,350$	6	47. 4 60. 7		77	28 26	22 31	21	40 42	2.53 0.74		1.00 0.60	0.2	8	6	19	25 6	sw. nw.	Walter H. Durant. U. S. Forest Service. M. B. Merritt.
Forney Garnet. Geneva. Glenns Ferry Gooding Grade. Grand Forks Grandview. Grimes Pass Guffey Hailey. Hollister Hotspring Idaho Falls Lizdian Cove. Indian Valley	Elmore Bear Lake Elmore Gooding Bannock Shoshone Owyhee Bolse Twin Falls Owyhee Bonneville Owyhee Adams	6,000 2,575 6,171 2,569 3,572 5,400 2,300 2,381 5,200 2,381 5,347 4,550 2,590 4,742	12 13 4 4 3 6 3 3 3 4 10 1 7 18	61. 4 58. 0 55. 2 61. 0 63. 2 53. 8 54. 7 61. 6	+ 0.9	92 94 90 84 86 ^b 95 86	25 26 26 31 26 26 26 26 26 26 26 26	34 24 19 22 30 34 25 21 25 28 28	1 1	46 56 52 48 42 46 43 42 53		- 0.66 + 0.75	0. 14 0. 12 0. 05 0. 30 0. 18 0. 62 0. 06 0. 21 0. 66 0. 12 0. 77 0. 22 0. 48	0 0 0 T.	4 4 4 4 2 9 4 8 13 2	23 19 21 10 11 22 29 6 13 17 25 18	6 10 6 11 8 7 2 17 16 6 5 9	2 2 4 10 12 2 0 8	e. nw. w. n. w. sw. w. ne. nw. n.	M. B. Merritt. Asa A. Kenison. F. W. Boehme. I. E. Perkins. John Krall, jr. E. W. Joy. John E. Keach. Harvey E. Hanna. Joseph M. Clarke. Fred Perry. U. S. Forest Service. J. W. Bouton. J. M. Waterhouse. Dr. T. M. Bridges. Capt. O. M. Carter. A. M. Henke. Mrs. Eve Buckland.
Irwin Kellogg Kilgore Kirkham Kooskia Lakeview Landore Leadore Lewiston	Bonner	6,500 2,305 4,200 1,261 2,250 5,300	3 4 15 8 1 19	56. 0b		77 89b 75	31 31 26 31 12 31	27 20 f 31 a 26 k 19 15 35	14	41 47b 47b 39 49	0. 85 3. 32 0. 84 2. 27 3. 23	- 0.41 - 0.03	0. 63 0. 45 1. 00 0. 20 0. 52 0. 64	0 1.0 9 0 0 T.	14 6	13 0 10 15 6	28 28 14 0 14	18 3 7 16 11	e. sw.	Mrs. Eva Buckland. W. McM. Huff. W. H. McCormick, Mrs. Josie B. West. U. S. Forest Service. E. D. Faust. Mrs. Emma L. Brown. Joseph Balluff. U. S. Weather Bureau.

TABLE 1.—Climatological data for May, 1913. District No. 12—Continued.

			years.	Temp	perature	, in	legre	es Fal	rent	neit.	Pre	cipitation	ı, în în	ches.	days, re.		Sky		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	Number of part-	Number of cloudy days.	Prevailing wind c	Observers.
Idaho-Continued.	Elmore	5,000	3			-					0. 59		0. 12	T.	10	4	13	14	w.	Solon McCon
Little Camas Loon Creek Mackay Meridian Mesa Middle Fork Milner Moore. Moscow Mountainhome Murtaugh New Meadows Nesperce Oakley O'Hara Bar Orofino Paris. Payette	CusterdodoAdaAdamsIdahoTwin FallsBlaineLatahElmoreTwin FallsAdamsLewisCassiaIdahoClearwaterBear LakeCanyon	6,000 5,897 2,657 3,275 1,397 4,110 5,700 2,748 3,150 3,950 3,082 4,700 1,557 1,027 5,946 2,159	3 5 2 2 9 12 20 7 6 8 3 19 2 8 18 21 4	59. 2 57. 0b 56. 7a 57. 0 49. 8b 52. 0 56. 9 54. 7 50. 2 51. 4 56. 2	+ 2.7 + 0.2 - 0.7 + 2.6 + 1.6 - 0.3	82 75 97 91 ^b 87 ^a 85 77 ^b 82 95 87 85 88 86 78 92 76		15 24 28 30b 34a 31 27b 29 25 27 24 28 25 25 25 21 29 21 11		50 39 48 45d 40a 41 38b 34 58 47 46 43 47 50 43 51 46	1. 46 2. 23 0. 65 1. 32 1. 29 2. 24 2. 70 T. 1. 00 1. 44 2. 28 1. 36 2. 17	+ 0.05 + 0.71 + 0.18 + 0.18	0. 50 0. 55	T. 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	17 9 4 5 13 7 10 2 0 1 11 9 6	11 12 14 14 12 14 18 5 18 5 15 11	10 13 19 17 8 12 17 4 21 23 5 5	15 4 4 3 11 5 9 5	sw. nw. nw. n. se. nw. w. n.	Solon McCoy. Mrs. Mary Williams. U. S. Forest Service. A. W. Garrett. I. S. Carter. Jos. McChee. James K. Young. Chas. B. Lemon. University of Idaho. Mrs. Ellen Manion. J. E. Steinour. Lue Highley. P. Mitchell. John Adams. J. D. Agnew. Geo. Alteneder. John Norton. E. F. Allen. David B. Clerke.
Pierson	Ada Bannoek	3,000 4,483	5 13	57.1	+ 1.1	95 85	26 26	23 32	14 2	47 36	0.44 2.44	+ 0.24	0. 23	T.	5	19	6 18	6 9	nw. sw.	David P. Clarke. C. E. Friedrich. U. S. Weather Bureau.
Pocatello Nursery Poplar Porthill	Bonneville Bonner	5,396 5,500 1,665	6 3 23	52. 9 53. 0	- 0.8	81 78	26 24	21 24	2	40 41	2.59 1.95	- 0.05	0. 58 0. 61	0	777	5 17	22 4	4 10	sw.	Mrs. Fannie E. Say. C. M. Lawrence. H. A. French.
No 9	dododoBoise	2,500 3,100 4,306	1 1 3 3	51.8 49.4 54.8		83	8 31 31 26 26	25 25 22 19 16*	1 1 4 1† 2	36 41 48 48 50*	2. 23 2. 11 2. 24 1. 48 0. 32 1. 25		0. 80 0. 81 0. 25	0 0 0 0 0	16 14 13 12 2 8	19 19 19 19 19	4 4 4 7 16	8 8 8 5 2	se. sw. sw. s. nw.	U. S. Forest Service. Do. Do. P. V. Smith. Idaho Irrigation Co. J. S. Bussell.
Roseberry Roseworth Rupert	Boise Twin Falls Minidoka.	4,872 4,650 4,204	3 2 6			85	26	28	1	46	0. 76 1. 26			0	8	0 27	27	4 2	sw.	Rev. T. P. Graham. D. B. Hartwell. Will Parry.
St. Anthony St. Maries. St. Michael's Priory. Salmon. Sandpoint. Sheephill Shoshone. Silver City Soldier Creek Spirit Lake. Springfield. Spring Hill. Sugar. Sunnyside. Tripod Mountain. Twin Falls. Vernon. Wallace. Weiser. Wendell	Fremont Kootenai Idaho Lemhi Bonner Boise Lincoln Owyhee Blaine Kootenai Bingham Ada Fremont Elmore Boise Twin Falls Fremont Shoshone Washington Gooding Franklin	4, 968 2, 263 3, 811 4, 040 2, 086 5, 090 6, 220 5, 755 2, 560 4, 420 3, 607 4, 892 3, 500 4, 300 3, 825 5, 728 2, 718 4, 140 3, 140	15 7 2 3 5 5 5 2 2 4 4 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	50. 0 56. 0 52. 2 57. 4 50. 1 55. 6 58. 4 53. 0 63. 0 52. 2 51. 8 61. 0 58. 9		79 91 84 91 81 89 91 83	26 26 31	28 16 24 21a 25 25 30 24 25 30 26 28 21 21	1 1 1	26 52 41 40*	2. 11 0. 89 3. 02 0. 69 0. 34 1. 64 0. 92 1. 89 0. 81 2. 91 T. 1. 10 0. 75 2. 39 2. 91 1. 37	+ 0.46	0. 28 0. 29 0. 70 0. 52 0. 16 0. 56 0. 36 1. 07 0. 55 1. 05 T. 0. 97	0.9 0 0 0 0 T.	13 12 10 9 4 12 7 8 4 8 0 3 9 9 9 13 13 15 6	6 17 14 6 13 11 14 16 20 7 14	10 10 10 10 10 6 15 13 4 4 21 11 16 10 3	15 4 7 6 12 5 4 11 5 3 6	De. W. S. W. DW. SW. DW. SW. DW. SW. W. Se. S.	Heber C. Sharp. J. S. Turnbull. Rev. Father Berthold. E. K. Abbott. S. M. Moore. C. M. Gardner. Zell Truman. Russell Stoddard. J. E. Minear. M. C. Krause. Mrs. W. A. Edwards. Ray G. Lyons. Utah-Idaho Sugar Co. Col. M. W. Wood. Mrs. Verna Paddock. J. A. Waters. A. M. Slatery. U. S. Weather Bureau. J. W. Lapish. Chas. L. Dingler. Wm. T. Chatterton.
Washington.		-, -00																		
Aberdeen Anacortes Anacortes Baker Bellingham Bellingham (near) Blaine Blewett Bremerton Brewster Buckley Bumping Lake Cedar River Centralia Clearbrook Cle Elum Colfax Colville Colville Forest Station	Chehalis. Skagit. Asotin Skagit. Whatcom do. Chelan Kitsap Okanogan Pierce. Yakima King. Lewis Whatcom Kittias. Whitman Stevens do.	162 60 2,800 60 107 2,200 40 1,620 635 3,400 1,930 2,300 1,635	22 19 7 18 2 16 4 15 3 2 6 20 10 14 24 13	48. 2 53. 3 54. 2a 52. 2 56. 5 52. 6 45. 0 54. 6 52. 9 50. 7 54. 8 54. 6	- 0.8 + 0.5 - 0.1 - 0.1 + 0.1 + 0.1 + 0.8 - 0.5	82 71 77 81 78 71 85 77 85 87 87 87 87 87 89 90	6 19 31 31 31 31 31 31 31 31 31 31 31 31	34 37 27 34 36* 32 34 27 33 30 28 31 24	5 2 1 4 6 5 1 7 5 6 2 1	42 26 39 35 34* 32 35 40 51 44 43 47 48 48	3. 69 1. 93 2. 89 2. 80 1. 94 3. 12 1. 28 2. 71 2. 89 1. 53 3. 29 1. 49 3. 04 1. 18 1. 59 1. 88	- 0.77 - 0.04 + 0.33 - 0.70 - 1.12 + 0.22 - 0.02	0.98 0.50 0.40 0.42 0.67 0.40 1.08 0.53 0.33 0.84 0.37 0.60 0.32 0.37 0.57	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	16 13 11 12 8 13 6 8 11 8 15 12 12 8 9 7	14 8 11 10 17 12 5 10 9 10 8 17 11 11	18 11 5 6 12 12 15 10 4 3 20 13 12 6 10	11 5 9 16 8 7 4 16 17 19 1 10 2 14 10	NW. SW. SW. SW. SW. SW. SW. SW. SW. SW. S	H. A. Benham. Douglass Allmond. W. A. Hamilton. Robt. M. White. Sanford B. Mayhew. U. S. Bureau Plant Industry. John W. Sheets. John Burmeister. U. S. Navy Yard. Mrs. H. F. Bertram. Geo. C. Sears. U. S. Reclamation Service. Geo. Landsburg. I. S. Turner. Geo. Gibbs. J. A. Balmer. I. B. Doolittle. W. L. Sax.
Conconully Coulee City Cowlehe Darrington Davenport Dayton Deer Park Detroit Dixie (near) Douglas Lake Dryden	Okanogan. Grant. Yakima. Snohomish Lincoln Columbia. Spokane. Mason. Walla Walla Skagit. Chelan.	2,300 1,874 567 2,450 1,700 2,050 30 440 960	2 4 27 2 5 4	56. 2 52. 8 57. 7 53. 6	+ 1.5		31 31 7† 30	32		42 43 41 42	0.90 1.25 1.73 3.12 3.02	- 0.64	0.55 0.35 0.43 0.42 0.60 0.62	0 0 0 0 0 0	6 10 10 13 12	15 17 9 18 8 9	14 12 18 8 14 5	2 4 5 9 17	nw. sw. sw. s. sw.	Wm. Baines, M. E. Jolly, U. S. Reclamation Service, N. C. Rhoads, J. L. Thayer, W. W. Hendron, Robt. Allison, jr. W. O. Eckert, T. Z. Andrews, Michael Pecovitch, Wenatchee Valley Gas & Electric Co.
Duckabush East Sound Ellensburg Etopia Forks Fort Simcoe	Jefferson San Juan Kittitas Franklin Ciallam Yakima	380 500 1,571 480 1,427	16 25 		0.0			30			5.77	+ 0.17	1.00	0	3 14		3	9	nw.	E. G. Newman. Ben E. Harrison. R. Lee Barnes. Frank O. Young. R. H. Palmer. Richard Newmark.

TABLE 1.—Climatological data for May, 1913. District No. 12—Continued.

			year	Temp	erature	, in c	legre	es Fah	renh	eit.	Prec	ipitation	, in inc	hes.	days,		Sky.		direc-	
Stations.	Counties.	Elevation, feet.	Length of record, years	Меап.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind tion.	Observers,
Washington-Contd.																				
GeromeGoat Lake	Stevens	1,200 2,900	1 4	55.8		89	31	26	1	44	1.38 3.89		0.48	0	10	6	23	2		J. H. C. Scurlock. C. M. Machintosh.
Gold BasinGold Creek			2	49.7		79	31	32	6	42	5.08 1.40		0.74	0	16	18	12	13 10	nw.	U. S. Forest Service. J. W. Anderson.
Gold Hill	do	4,454					21			- 44										U. S. Reclamation Service
GoldendaleGranite Falls	. Snohomish	1,600 397	10			90	31	29	2	44		+0.13 -1.30	0.70	0	15	9	21 7	3 15	nw.	Klickitat Co. Abstract Co. C. H. Cleaver.
Grays River	. Wahkiakum																			A. B. Martin. Frank Kuehnel.
Hanford	. Benton	385		61.4		98	31	30	2	51	0.61		0.19	0	6	6	21	4	nw.	Frances Lee Bash.
Hatton Huntsville	. Adams	1,400	8 5	57.2		92	31	25	1	48	0.91		0.42	0	4	12	3	16	sw.	Dr. A. V. Marion. Mrs. S. J. Hill.
Irene Mountain Kennewick	. Okanogan	2,700	18	61.6	- 0.9	95	31	38	51	47	2.50 0.38	- 0.13	0.75	0	10	9	8	14		Mrs. Theo, Wheeler, R. E. Reed,
Kent	. King	53		54.1		75	31	31	1	40	2.29		0.74	0	9	11	6	14	n.	A. O. Jeffries.
Kettle Falls		1,265 430	7	55.6		90	31 21	27 34	1 2	45	2.10 0.52		0.53	0	5	17	9	5	sw.	H. H. Cole. Dr. F. S. Hedger.
Kosmos La Center	. Lewis	775 250	7 16	53.4	- 1.7	86	31	32 32	6		2.88 2.29		0.43	0	15	12 14	19 12	5	ne. sw.	J. A. Ulsh. Joseph Brothers.
La Crosse	. Whitman	1,400	4	55.8		86	31	30	2	48	0.79		0.23	0	5	12	12	7	SW.	M. E. Schrech.
Lake Clealum Lake Kachess	do	2,235	5	49.9		86	31	31 30	6		1.45		0.35	0	13	12	11	16 18	nw.	U. S. Reclamation Service Do.
Lake Keechelus Lakeside	do		5 22	58.4	- 0.1		31	36	4		2.72	+ 0.82	0.44	0		12	11 18	8	w. w.	Do. W. H. Van Meter.
Laurel	. Klickitat	1,900	4								1.51		0.40	0	5	16	11	4	W.	Mrs. Minnie E. Strout.
Laurier Lone Tree	. Chehalis	1,644	3 4	54.2 52.8		85 68	31	24 42	5	45 19	2.66 3.26		0.60	0		6 4	5 21	20 6	nw.	Mrs. J. S. Myers, U. S. Engineer Corps,
Longmires Springs Lost Creek	. Pierce	2,800	2 4								0.29		0.09	0						National Park Ranger.
McConihe	. Grant	1,072	2	58.4		93	31	29	2	41	0.73		0.25	0	8 6	10	8	13 5	w.	P. H. Leese. L. F. McConihe.
McCumbers Ranch Milton Ranch			3			80	31	23	1	41	1.50		0.60	0	7	9	19	3	sw.	Mrs. Mary McCumber. Knute Milton.
Moses Lake	. Grant	1,070	2								0.88		0.30	0	4	28	0	3		H. M. Flemming.
Mottinger Mount Pleasant	Benton	307 500	13	60.8	- 2.0	89 72	31	36	1 4	37 29	0.78 1.45	- 0.18	0.20	0	7	23 13	9	9		
Moxee Newport	. Yakima	1,000	21	58.0	- 0.1	91	31	26 22	1	46 46		+ 0.40	0.45	0	12	12	14	5		H. B. Scudder. Chas. M. Talmadge.
Nighthawk	. Okanogan	3,050	3 4			85					1.52		0.60			5	19	7		. Steve Nagy.
North Head North Sundale		211	11	51.0 62.9	- 0.2	60 90	31	42 38	1	11 40n	1.66	+ 0.46	1.09	0	12 8	5	12	14	nw.	U. S. Weather Bureau. Ruth J. Shepard.
Northport	. Stevens	1,350	14	56.2	+ 1.8	88	31	29 32	1 2	42	1.79	- 0.15	0.57	0	13	16	14	1		W. F. Case. Albert Bender.
North Yakima Odessa	. Lincoln	1,540	10	58.9 55.5		86	31	26	1	43	0.67 1.26		0.29	0	6	19	19	8	nw.	H. W. Rieke.
Olga Olympia		50 45	23 35	52.6 54.0	- 0.2 - 0.6	68 80	31	40 31	4† 5†	20 48		-0.31 + 0.26	0.50	0	12	9	9	13 13	sw. w.	Cecil S. Willis. M. O'Connor.
Omak	. Okanogan	850	4	57.8		92	31	24	1	48	2.12		0.53	0	6	18	3	10	S.	Saint John Umbrite.
Oroville	Garfield	922 5,000	3	57.2		86	31	30	1	41	2.65 2.29		1.40 0.58	0	17	15 12	8 12	8 7	s. nw.	M. C. Jackman. Samuel Gruel, sr.
Pomeroy	do	1,500 259	21 18	56.0 48.2	- 0.7 - 0.9	85 66	8 31	32 30	5 5	42 27	2.16 1.32	$+0.36 \\ -0.99$	0.75	0	9	6	20 13	5 14	w. nw.	Peter McClung. U. S. Weather Bureau.
Port Townsend	. Jefferson	80	23	53.2	- 0.2	70	31	40	7	21	2.13	+ 0.25	0.52	0	10	12	6	13	nw.	Frank Plummer.
Prosser	. Whitman	661 2,550	21	59.4 52.3	- 0.6	93	31	29 31b	1	44 32°	0.95 1.60	- 0.24	0.28	0	10	15	15	8	W. SW.	E. L. Capps. State Agricultural College
Queets River	. Jefferson	16	6	51.4 52.7		69 85	61	35 32	5	30 45	4.70 8.03		1.02 1.50	0	17	10	5	16	w.	C. A. Bullard. A. V. Higley.
Reardan	Lincoln			54.2	+ 0.6	80	25 31	28 21	1	33	0.80	- 0.90	0.35	0	8	10	15	16	w. sw.	Chas. Shoemaker.
Republic	Chelan	2,628 1,135	13	50.8	- 0.9	84	31	38	1 2	34 1	1.99 0.63	- 0.18	0.60	0		11	71	18 8f	s. nw.	Geo. B. Stocking. James W. Nicol.
Ritzville	Adams	1,825	14					*****			0.46		0.19	0	5					Agent, N. P. R. R. R. R. Couger.
Rock Lake	Whitman	1,910	7								*****	*******								P. M. Ramsey.
Rock Lake	Yakima.	2,425 2,870	21	53.7	+ 0.9	84	31	29	17		1.68	- 0.40	0.40	0	12	10	16	5 4	sw.	Hans Mumm. Mrs. Adella Russell.
Seattle	King. Skagit.	208	22 16	54.1 53.2	- 0.9 - 1.7	71 77	31 31	42 33	1 5	25 36		- 0.95	0.65	0		5 10	9	17	8.	U. S. Weather Bureau. Mrs. H. L. Devin.
Sixprong. Skagit Power Dam	Klickitat	1,240	6		- 1.7							1.34						11	******	C. E. Comstock.
Snohomish	Whatcom	510 55	19	54.0 54.2	- 0.5	85 76	31	33 32	1 4	42 39	2.62 3.22	- 0.04	0.40	0	14	15 21	3	13	w.	Skagit Power Co. James Byling.
Snohomish. Snoqualmie Falls Snoqualmie Pass	King	667 3,000	14	55.2	+ 0.2	81	31	37	6	42	3.29 1.27	- 1.19	0.60	0	17	13	Ô	18		O. N. Wiswell. R. E. Chadwick.
Snyders ranch	Okanogan	2,200	4	50.4		83	30	23 34	2	50	1.70		0.39	0	6	18	7	6	nw.	Geo. M. Snyder.
South Bend Spokane	. Pacific	140	18 32	50.2 55.6	- 2.9 - 0.5	78 86	31	34 35	2	40 35		- 1.33 - 0.41	0.79	0	17	8 5	15	8 17	w. sw.	Mrs. W. E. Buckingham. U. S. Weather Bureau.
State University Stokes Ranch	King	170 2,670	4			69	31	43	1†		1.55 1.28		0.40	0	11	9	5	17	8.	University of Washington Chas. W. Gunn.
Sumper	Pierce	77	5	53.1		76	31	32	5	39	2.45		0.34	0	12	10	25	17 17	90. n.	H. E. Thompson.
Sunnyside Tacoma	Yakima	740 213	18 27	58.2	- 0.3 - 0.9 + 0.4	90 72	31 21	27 40	1	44 28	$0.96 \\ 2.29$	+0.34 -0.25	0.35 0.75	0	6	11 5	16 13	13	nw. sw.	U. S. Reclamation Service U. S. Weather Bureau.
Tatoosh Island	Clallam	86 2,313	28	50.0	+ 0.4	60	31	40	5	12	3.75		0.89	0	16	4	10	17	w.	. Do.
Tieton Touchet	Walla Walla	556	6	54.7 59.0		85 90	31	34 34	5 21	37 48	1.34 1.23		0.89 0.32	0	8	19	13	5	w. sw.	U. S. Reclamation Service D. W. Dorrance.
Touchet Ridge	Columbia	2,500 900	4 9	60.8		91	31	36	1	31	0.79 0.95	• • • • • • • • • • • • • • • • • • • •	0. 14 0. 55	0	13	14 21	13	4	sw. nw.	Mrs. Maude Bernard. J. C. Wheeler.
V SIICOUVET	Clarke	100	38	57.1	- 0.4 - 1.1	84	31	35	1	35	1.79	- 0.62	0.53	0	11	11	9	11	nw.	A. A. Quarnberg. Miss Gertrude McClintock
Vashon Island Wahluke	King	40 410	24	52.8 61.0	- 1.1	70 93	21† 31	39 35	2 2	27 42	1.68 0.73	- 0.49	0.53	0	13 5	12 11	11	15	S.	Miss Gertrude McClintock F. C. Koppen.
Wallace	Okanogan	4,000	4								4.97		1.98	0	12	45	15	11	S.	G. A. Wallace.
Walla Walla Washougal	Clarke	1,000 650	29 13		-0.5 + 0.4	88 82	31	38 37	1	32 35	1.24 2.95	- 0.59 - 1.36	0.66	0	13	13 13	10 8	8 10	S. W.	U. S. Weather Bureau. F. M. Grout.
Waterville Wenatchee	Douglas	2,624 639	23	53.7d	+ 0.3	86d 92	31 31	30° 32	1	40° 43	1.49 1.65	+ 0.24	0.54 0.88	0	5 5	21 17	9	6 5	n.	O. R. Hopewell.
Wenatchee near	I	1, 169	14	54.2	- 1.4	82	31	35	1	30		+ 0.86	0.95	0	7	12	10	9	w.	A. A. Piper. Geo. A. Pitcher.
White Salmon	Klickitat Lincoln	325 2, 203	2 14	52.8	- 0.4	88	31	23	15	46	1.92	+ 0.40	0.55	0	8	13	2	16	sw.	C. W. J. Reckers. R. J. Reeves.
Wind Rivar	Skamania		2		- 0. 4		31	32	5	44	2.68		1.01	0			8	11	w.	U. S. Forest Service.

TABLE 1.—Climatological data for May, 1918. District No. 12—Continued.

			years.	Tem	perature	, in	degr	ees Fal	hren	heit.	Pre	cipitation	i, în in	ches.	days,		Sky		direc-	
Stations.	Counties.	Elevation, feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.		Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy day 0.01 inch or more.	Number of clear days.	Number of part- ly cloudy days.	Number of cloudy days.	Prevailing wind c	Observers.
Washington-Contd.																				in the state of the
Winthrop	Okanogan Clarke	1,765 850	2	54.2		89	31	29	4	45	1.14 3.06		0.60 0.96	0	8 8 12	19 18	5	9	w.	Methow Trading Co. C. R. Miller.
Yale Zillah	Yakima	375 800	6	54.6		90	31	33	41	40	2.99		0.80	0	12	10	6	15	SW.	J. A. Williams. C. G. Ware.
Oregon.										1					13	38	18		C 1/2	
Agency Plains	Crook	2,362		49.8		82	31	21	1	37	1.45		0.48	0	7	18	4	9	nw.	W. S. Williams.
Albany	Linn Benton	212 350	31 16	56.0 55.4	-1.3 + 1.2	82 86 84 88 71	31	30 35	81	36 40	2. 12 1. 58	- 0.28 - 0.37	0.42	0	7	10 16	11	12	n. e.	F. M. French. J. D. McPherson, jr.
shlandstoria	Jackson	1,963 16	29 52	56.6	- 0.3 - 1.0	88	31 31	31 41	8† 2 1	38 24	1.94 3.17	+ 0.27	0.83	0	8 15	9	16	6 14	nw. nw.	G. G. Eubanks. Irving Club.
ustin	GrantBaker.	4,250 3,466	2 23							38						7		9		U. S. Forest Service. U. S. Weather Bureau.
Baker	Crook	3,629	8	52.3	+ 1.6	84	26	27	1		1. 10	- 0.63	0.22	0	13		15		nw.	Bend Bulletin.
lack Butte	LaneGilliam	1,200 237	12 15	51. 2 62. 2d	- 0.5	80 91d	25 26	32 38d	2	41 40d	3. 05 1. 18d	+ 0.67	0.85 0.36d	0	10 6a	19 9d	124	6d	nw.	William Harris. Geo. W. Long.
rogan	Malheur Harney	2,600 4,157	3 22	54.4	+ 5.6	89	26	26	10	47	0. 25	- 0.54	0.12	0	3	14	10	7	w.	J. M. Addington. J. C. Welcome, ir.
ascade Locksazadero	Hood River	100 503	23	55.9 55.8	- 0.9	81	31 31	30 36	20	39	3.30	- 0.24	0.63	0	12 15	15 10	7	9	w. nw.	Val. W. Tomkins.
Central Point	JacksonLinn.	3,030		57. 2 46. 5		84 87 81	6† 31	27	5 2 5	50 47	1.39		0.53	0.2	8 16	14	9 2 17	14	nw.	A. C. Fiero. R. B. Grondahl.
liff	Lake	4,300	6	48.9		85	26 31	28 10	1	53	0.85		0.58	0 0	3 8	6	17	8	nw.	John C. Green.
ondonorvallis	Gilliam Benton	2,884 266	25	51.8 54.5	- 0.5	80 87	31	26 34	1	43	1.71 1.89	- 0.36	0.64	0	8	19 13	9	3 9	sw.	C. F. Kennedy. Oregon Agricultural College
rescent	Klamath	4,400 2,200	19	46.6		85	31	14	1	55	1.23		0.35	Т.	8	15	12	3	sw.	C. W. Long. J. Campbell-Martin.
eadwood	Lane	350 600	3	54.6 52.0	- 0.4	88 77	31 6†	36 34	1	42 35	2.66 2.19	- 0.87	0.80	0	11	11	21	6 12	sw. nw.	Jos. Slemmons. Jos. Hackenberg.
rain	Douglas	300 625	11	56.0	+ 0.4	86	31	34	2	46	1.73	- 0.67	0.43	0	15 11	11 17	10	10	nw.	Ira Wimberly.
cholla	Umatilla Morrow	830	9	60.5		90	26†	36	2†		0. 55		0. 18	0	4		5		w.	R. B. Stanfield. Carl F. Troedson.
ugene	Lane	449 142	23 17	56. 4	+ 1.7	84	31	30	13	40	2.80	+ 0.35	0.63	0	9	12	5	14	w.	Paul G. Bond. William Bettys.
ollyfarmorest Grove	Malheur Washington	220	24	53. 4 57. 8	+ 2.3	91 88	26 31	17 36	14 13	52 28	$0.72 \\ 1.62$	- 0.41	0.25	0	11	12	10	9	nw. n.	W. R. Gardner. Pacific University.
ardinerlassbuttes	Douglas	72 4,200	24																• • • • • • • • • • • • • • • • • • • •	Wm. S. Angus. C. J. Stauffer.
lendale	Crook	144	9																• • • • • • • • • • • • • • • • • • • •	B. J. Simpson.
lenoraold Beach	Tillamook	575 40	22 12	51.6	- 0.5	88	31	31	4	48	3. 53	- 2.85	0.85	0	12	13	5	13	SW.	Mrs. J. A. Reeher. John W. Riley.
rants Pass	Josephine Sherman	956 $2,381$	25 12	57.3 53.7	+ 0.6	93 84	31 31	27 26	1	50 41	1.83 2.72	- 0.02	0.46	0	8	15 12	10	10	sw. nw.	John B. Paddock. Agent OW. R. & N. Co.
urdaneeadworks	UmatillaClackamas	3,500 719	4			80	23	30	16	36	0.26 3.91	- 2.00	0.07	0	11	14 15	13 16	4	w. sw.	Miss Belle Ely. Portland Waterworks.
eppner	Morrow	1,950	23	55.0	+ 0.1	83	31	33	1	37	1.39	- 0.21	0.46	0	11	8 21	22	1 3	w.	Frank Gilliam.
ermiston	Umatilla	451 1,595	6	59.6		92	31	33	2	46	0.59		0.20	0	4	21	7			C. W. Kellogg. R. H. Parsons.
ollywood Orchard ood River	Hood River	1,400	23	56.2	+ 0.8	92	31	35	5	43	1.05	- 0.15	0.40	0	4	19	6	6	w.	A. C. Allen. Edward W. Birge.
No. 2 No. 3	do	485 620	1	57.8 55.5		91 90	31	39 31	5 5	41 49	1.23 1.18		0.29 0.27	0	8 7	19 11	19	9	w. nw.	W. H. Lawrence. U. A. Newman.
No. 4	do	850	1	54.3		88	31	32	5	43	1.47		0.34	0	7	23	6	2	w.	P. L. Smith. J. G. Jarvis.
untington	Baker	2, 165	12	61.4	+ 1.9	90	31	35	1 2	44	0.10	- 0.65	0.04	0	4 7	13 17	18	0	w.	Agent OW. R. & N. Co.
cksonvilleseph	Jackson Wallowa	1,640 4,400	25 24	57.3 50.6	$+0.9 \\ +2.0$	89 79	31 23	29 27	1	40 34		-0.09 + 0.74	0.62	0	12	17	5	17	8.	E. Britt. F. F. McCully.
lamath Agency	Klamathdo	4, 169	5 24	53.4	+ 0.6	83	31	26	1†	31	0.71	- 0.33	0.28		4	18	8	5	nw.	N. D. Ginsbach. Augusta J. Hayden.
aGrande	Union Crook	2,784 3,171	25	51.6						44	1.24		0.44	0		14			nw.	W. A. Worstell. J. W. Brown.
akeview	Lake	4,825	30	50.6	- 0.1	84 81	31 26	21 21	i	39	0.79	- 0.73	0.35	0.5	7	11	8 7	13	8.	C. C. Gott.
Pine. cKenzie Bridge	Crook	4,230 1,400	12	48. 4 55. 1	+ 1.1	85 93	26 31	15 30	5	49 55	1.34 3.63	- 0.66	0.28	0 0	10	20 12	6	18	sw.	Albert Larson. George Frissell.
cMinnvillearshfield	Yamhill	182 34	26 12	55.7 52.6	+1.1 +0.5 -0.8	87 74	31 25	35 32	1 1	40 34	1.34 2.35	- 0.71	0.50	0	12	14 20	5 2	12	sw.	M. E. Pettit. U. S. Weather Bureau.
eadow Brook Ranch	Hood River Jackson	850 1,425	1 3	55.8 58.0		88 92	31 31	36 28	5†	39 46	1.75		0.44	0	12	12 18	13	6	w. nw.	John W. Palmer. U. S. Weather Bureau.
errill	Klamath	4,070	8															6		U. S. Reclamation Service John A. Hoffman.
etoliusiramonte Farm	Crook	2,525 195	3 25	53. 2 56. 3	+ 0.5	83 84	23† 31	20 35	1	37	1.35 2.19	- 0.59	0.50	0	14	23 14	7 0	10	sw. n.	G. Muecke.
ount Angel	Marion Hood River	485 1,450	27	56.8 51.8	+ 0.1	81 85	31	39 30	1 1+	30 48	2.51 1.20	- 0.28	0.57	0	10	20	0	11	sw. nw.	Dr. Urban Fisher. Isaac Beal.
usick	DouglasLincoln	5,000	26	45.9 50.4	- 1.9	72 65	31 25	22 39	1	35	3.47	- 1.29	0.55 1.05	2.2	16 11	14	10	15	sw.	Alex. Lundberg. William Mathews.
iell	Hood River	1,000	1															8	w.	W. H. Chipping. L. D. Firebaugh.
tleyisley	WascoLake	1,600 4,209	10	53, 2		84	31	34	1	32	1.27		0.40	0	8	14	9			C. M. Sain.
rkdalendleton	Hood River Umatilla	1,650 1,070	3 24	52.9 59.3	+ 1.5	89 89	31	31 33	16	41	1.04	- 0.31	0.26	0	9	20 13	16	6 2	nw.	S. G. Babson. E. F. Averill.
ninsulalot Rock	CrookUmatilla	2,640 1,817	5	54.8 58.1		87 88	31 31	24 34	1 14	41	1.47		0.56	0	6 15	21 12	9 15	1 4	w. nw.	M. M. Davenport. John P. McManus.
ompeil	Clackamas	3,879	18																	E. Coalman. U. S. Weather Bureau.
ortland	Multnomah	57 80	8	57.6 52.4	+ 0.8	84 71	31	41 36	16 2	29 25	1.63 3.25	- 0.73	0.54 1.20	0	12	12 16	8	12	nw. n.	John D. Loucks.
owell Butte	Crook	3, 240 3, 425		51.9 54.2b		87 91b	31 26	21 24b	14	48 50b	1.06 0.71		0.40	0	7 10	11 9b	10 13b	10 7b	w. w.	Earl Saunders. A. M. F. Kirchheiner.
rineville	Crook Jackson	3, 425 2, 864 2, 800 1, 350	17	54.0		91	31		2	49	1.84		0.43	0	12	15	10	6	ne.	Mrs. T. M. Baldwin. Charles A. Lower.
amsey	Wasco	1,350	7 12	52.8		82 84	31	23 26 25	1	39	1.19		0.35	0	7 9	22 21	4	5	w.	Mrs. Iva B. Collins. Mrs. Emma Arbuckle.
angeedmond	Grant	3,500 2,990 2,350	2	50. 4		54	26	25	14	49	1.90		0.50						8.	T. G. Stevens.
chlandddle	Baker	2,350 715	12	56.4		86	6		2				0.26		9	1.45	9	7	n.	L. G. Morgan. P. A. Wilson.

Table 1.—Climatological data for May, 1913. District No. 12—Continued.

			years	Temp	erature	, in c	legre	es Fah	renh	eit.	Prec	ipitation	, in in	ches.	days,		Sky.		direc-	
Stations.	Counties.	Elevation. feet.	Length of record,	Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmelted.	Number of rainy days, 0.01 inch or more.	Number of clear days.	day	Number of cloudy days.	7	Observers.
Oregon-Continued.																				
lio Hermoso	Crook	2,110	2	54.5		87	22	25	1	43	1.72		0.52	0	6	16	11	4	nw.	C. T. Hubbard. Mrs. Leah Fairman.
liverside	Malheur	3,000 4,000	14	52.0	******	80	31	12		55	1.72	******	0.60	0	5	25	4	2	nw.	Loren B. Robb.
obbville	Crook	510	35	57.4	+ 1.4	88	31	33	1	42	1. 50	- 0.55	0.50	0		10	16	5	n.	U. S. Weather Bureau
oseburg	Douglas	120	23	56.6	+ 0.5	85	31	41	2 5	33	2.24	- 0.29	0.56	0	11	16	1	14	nw.	M. P. Baldwin.
alem	Marion	4,800	2	48.6	+ 0.0	81	26	20	11		0.45	- 0.29	0. 10	0	7	9d				E. J. Southworth.
neca	Grant	4,700	16	51.4	+ 2.6	85	26†	15	3	50	0. 43	- 0.27	0. 45	0	5	12	17	2	SW.	G. W. Marvin.
lver Lake	Lake	4, 115	5	53.8		81	26	26	1		1.47	1	0. 52	2.5	6	9	13	9	е.	U. S. Weather Bureau
iskiyou	Jackson	4, 150	22		. 0 0	82	26	24			1. 23	- 0.67	0.60	0	8	13	14	4	W.	J. A. Wright.
parta	Baker	4,130	17	53.0	+ 2.2 + 1.4		29	36	1		2, 40	- 0.48	0.59	0	14	10	**		SW.	John P. Gage.
tafford	Clackamas	1,215	14	56.0 58.1	+ 1.4	90 95	31	25	1 2	53	1.35	200	0.60	0	7	14	11	6	nw.	Mrs. J. C. Pendleton.
able Rock	Jackson	1,210				91	31	29	2	44	1.92	******	0.68	0		18	4	9	nw.	T. F. Smith.
alent	do	1,800 112	39	57.6		90	31	38	1		0.96	+ 0.39	0.36	0	11	16	4	11	w.	Judd S. Fish.
he Dalles	Wasco	112	39	61.0	+ 1.1	90	31	38	1	28	0.90	+ 0.39	0.30	0	11	10		1		Will Spaulding.
illamook	Tillamook	*******	00	FO 0	- 2.6	PO.	01	20		32	2.55	- 1.63	0.80	0	9	18	13	0	nw.	C. B. Crosno.
oledo	Lincoln	75 340	23 25	50.8		78 97	31	33 36	1		0.80	+ 0.10	0.26	0		10	1	20	e.	Mrs. H. T. Duncan.
matilla	Umatilla				+ 0.8				2			+ 0.10	0. 26	0		17	5	9	nw.	Robt, Withycombe.
nion	Union	2,787	2	53.6		87	26	29 32	2	44	1.92	- 0.37	0.44	0		21	10	0	ne.	H. P. Osborne.
ale	Malheur	2,242	21	60.0	+ 4.2	95	25	32	21	48	0.76	- 0.37	0.41	0	9	al.	10	0	110.	George Howe.
an	Harney	3,506	2 2			00		24	****	42	3. 55		0.80	0	13	13	4	14	w.	W. H. Pendell.
ida	Lane	1,100		54.4		88	6	34	11	42	3. 33	******	0.80	0	10	10	-	14		M. M. Lewis.
Valdo	Josephine	1,900	1			04				40	0.07	******	0.66	0	12	6	15	10	******	Charles A. Park.
Vallace Orchard	Polk	170	4	54.8		84	31	35	1		2.37	. 0 00		0		5	11	15	nw.	L. J. Coverstone.
Vallowa	Wallowa	2,935	10	51.6	+ 1.2	83	31	26	1	43	2.47	+ 0.69	0.54	0		9	11	11	W.	A. J. Swift.
Vamic	Wasco	1,500	12	54.2		85	31	24	2		1.77		0.54	0	8	8	18	5	W.	George W. Robbins.
Varmsprings	Crook	1,500	11		+ 1.7	87	31	26	1	40	1.24	+ 0.44	0.50	0	9	13	12	6	W.	J. R. Howell.
Vasco	Sherman	1,263				87	31	35	11		2.00	0.01	0.74	0		10	3	18	S.	M. A. Baker.
Veston	Umatilla	1,800	21		- 0.4	85	25	30	1	35	2.13	- 0.21	0.63	0		14	13	4	W.	Frank Percivall.
Vhitaker	Crook	4,250				85	26	10	1		0.65		0.19							Francis J. LeRoy.
Villiams	Josephine	1,368	21		+ 1.0	91	31	31 c				- 0.34	0.35	0		17	7	7	n.	Ward Rueck.
onna	Klamath	4, 146	6	50.4	1	85	26	18	1	51	0.44		0.16	0	5	5	18	8	W.	ward Rueck.

*, b, e, etc., indicate respectively 1, 2, 3, etc., days missing from the record.

**Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2 .- Daily precipitation for May, 1913. District No. 12, Columbia Valley.

Stations.	Watershed.	-		1	1	1	1		1	1	1	1	1			- ay	of m					1		-		1		-					
7		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
Montana.																															117		1
naconda	. Missoula				1	5 .0	8 T.			T.	. 02	*		.24			. 06		. 56	. 12	. 03			T.			T.	. 29	.06				. 1
ntte	Flathead		Т.		5		T.	T.	.32	. 10	. 15	T.	.30	. 05		.02		T.	.30	T.	T.				T.		T.	. 18	T.				. 1
olumbia Falls	. Bitter Root.		1	i	9 .0	1				. 04	.10	.18	.34			.18	.21	. 15	.21		****							.36	.03				1
avton	. Flathead				0 .i	30	0					. 15				. 20	.30			. 10	.20												. 1
eer Lodgeast Anaconda	do	T.	T.	T. T.	*	2	T.	T.	.02	.03	.04			.31		T.		.10	. 30	. 15	04			T		• • • • •	. 25		.01	****			1
ortine	. Kootenai			T.	.0	8 T.		T.		.03	. 05	T.	. 10	.07	T.	. 10	. 60		T.	T.	T.	. 05						. 13	. 36				
amiltonat Creek			T.	T	.6		7	1.	.09	.02	T.	.06	T.		.03	.01	.05		.27	.01	06			.03	T.			.06 T.	T.				- 1
augan	do		1 .0	8 . 0	0					. 15	. 10	*	. 19	T.	T.	. 17	.02	T.	. 29	. 01	T.			T.				.06	.22				. 1
eronalispell				. 0		.03	2			.30	.07	. 19	.05	.07 T.	. 15 T.	.31			.37	.05	. 03							.27					
bby	. Kootenai									. 02									. 20									. 18	. 15				
issoulavando	Missoula	T.		T.	2	4 .0	02		.02	.12	T.	.04	T.	.02	T.	. 12		.02	. 12			T.	T.	.02		T		. 30		T.			
ilipsburg	do				0	5 .0	5			T.	T.	. 25	. 35						.27	T.							T.		. 44	.25			
easant Valley	Kootenai			. 1			3	1		06	.09	.09		.07	T.	.11		T.	.26	. 13	. 04							. 60					
lson	Flathead				5	5			T.			.20				97					. 22							.00	.23				
Ignatius			3		8 . 1	T.			Т.	. 19		.42	T.	. 35		. 60	.25		. 65		. 11							. 16		. 04			. 3
evensville	Bitter Root.	T.			. T.					. 33		. 02		. 04						.06	.02		****					. 22				****	
ompson Falls out Creek	Columbia					4 .09			.18	.05	.04	. 03	. 03	T.	.32	. 13	.07	m	.21	. 09	. 04							.11	.31				
ctor	Bitter Root.									. 05	.01	. 01		. 28		. 01	. 04		.27	T.	T.							.05	T.	. 10	****	****	: 1
illow Glen Stock Farm.	Missoula								••••			.01	. 04				.06									.02	.02						
Wyoming.							-																							-			-
ton			. 20	0									. 20						. 33	. 50	. 13			.20							20		
chler River				T.										. 22	.06	. 05	. 05	. 03	. 85	. 65	. 25	.03			. 25	. 65	.04	.07					
dford	do	. 08	. 12	4								.02	. 12	. 05	.30	••••	.11		. 55	.31	. 44	.02				.22		.04			36		
ranake River	do	. 05	. 02	2	0%	3								.08	.04	- 40	. 14	.08	1. 15	. 44	. 05	.01			. 15	. 15			.03	.08	.10	.11	i
		.20	.00		T.	.20		T.			T.		.01	. 35	.04	. 33	. 18	T.	. 91	. 38	. 29	. 40			. 10	.24		T.			T.		- 3
Nevada.																																	
Jacinto	Snake										••••			• • • •			••••		. 29		. 05				.21						. 16	.11	1
Utah.													-																				
Idaho.	Raft						••••			••••	T.	••••	****	. 10	••••	••••	••••		1.20	. 13	. 33		••••	T.	T.	. 06		T.		. 05	. 17		- 2
bion																																ME.	
mo nerican Falls							T.							T.				. 80													.30		1
rowrock	Boise										••••	••••		. 06				. 16	1. 40 T.														- 3
ekfoot	Blackfoot							T.			T.	T.	. 42	. 22		T.			1.25	T.	. 02			T.			.04				.03		
ckfoot Dam gus Creek	Blackfootdo	• • • •			****			T	T.			T.	04	. 20		. 12	T.	. 10	. 00	. 00	+ 44	.01			.30			. 05		.04	. 42	. 08	8
se	Boise			1	1		1	T		T			. 03		T.	T.		. 09	. 25						.01		.02	.17					
nners Ferry	Kootenai Boise									. 38	. 05		.11			. 76		. 50	70	. 08								. 32					
hl	Shake			1	1			T.					. 09			T.		.05 T.	. 13	.37	T.		****	. 05	.03	.01	. 67	.03	.27	.02	.11	.35	5
dwelldwell Exp. Sta	Boisedo								. 13	T.						T.			. 40									. 49					
nbridge	weiser								. 08	. 09			. 10			.02			. 48			****	****		.04	••••	.02	.31					
lar Creek Dam sterfield	опако					1	. 01		02	1	0.3	- 1	. 28			. 03		. 02	. 54		. 06			T.	. 12		.01	T.	T.	. 02	. 12		
rks Fork	Pend Oreille.			. 04		T.				.29		T.		04	T.	22	06		. 29	. 60	.06			T.			. 06	. 03		. 04		T.	
ur d'Alene	Spokane								.24	. 68		. 12		. 13	.01	. 15			. 55	. 05				т.				. 25					
desac	Weiser Clearwater								. 05	62						.07	****	. 05	.72	. 09	01			T.				. 23					
it	do				1					. 55	. 30		. 07		. 03	- 29		. 06	. 40	. 53	.30												
ggs	Snake	T.															08	10	1.00					·m				10					-
mett	Payette									. 02					T.	T.		. 10	. 60	. 20	. 20							.10	.02	****	. 30	****	
ney net	Salmon										••••																						
eva	Bear	. 05	. 11								. 14									.09											.02	.07	
nns Ferry	Snake Big Wood												.05					T.	.04						·			. 12	.05 T.		T.		
cend Forks	Bear	T.											.02	.20				Т.	.30	.25				.04	T.	****	. 05	****	T.	****	T.	••••	1
nd View	St. Joe Snake																																
nes Pass	Boise							.03	T.		. 05		.05	T.	.08	.02			.44				****		T		. 18		.04		T	T.	1
ey	Snake Big Wood	-						T.	.06		T.	T.	. 02	. 06													T.	. 03					. (
ister	Snake	T.			****			.01	••••	.25	.02		. 02	T.		T.	T.	. 02	. 21	14	.07			31	T	.09	.03	.07		T.	.07	. 12	
Spring	Bruneau									T.			T.					T.	. 12		T.				T.			. 10		T.			1
an Cove	do									.02			.13	.37	.04			.01	.77	. 66	.37	.04			T	. 10		. 01			T.		1
an Valley	Weiser								. 19	T.	.21		.18		. 03	T.		.00	.12 .77	.14					1.		. 22		.21				1
nogg	Snake C. d'Alene		• • • •	****						05	42	63																					
ore	Lost River									.00	. 43	. 63	.40	.00	.08	.30	.06		.20							• • • •	••••		.24				1
cham	Region. Payette													7									****							-			
SK18	Clearwater	.10								.10	.10	.12	.07		T.	.05		.03	.00 .				• • • • •	T.	. 22		••••	T.	T.		.96	.10	3
dore	P. d'Oreille . Snake							1		30	30					.35			.20 .52		*	*	*	*	*				*	- 80			2
uore.	Salmon	. 02	.12		T.		Т.	T.	.11	. 64	.04	.41	.17	.11		.38		.18	.55								••••		.00				3
ristonle Camas	Clearwater								T.	. 65	. 19		.01		.08	.09		T.	.28	.02				T.			. 13	.10	.05				i
- Сашаз	Boise	.10	T.						.01	.02			. 04	. 10		.06		.12							.01	.02	.11						Ô
Creek.kay	Salmon										,																						

TABLE 2.—Daily precipitation for May, 1913. District No. 12—Continued.

Stations.	Watershed.	-	1	1	1		1		1							Day o	- 1110	astil.	1	1												4
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
daho-Continued.																																
eridian	Boise								T.	T.			T.	.06		. 01		T.	,55	T.						. 03	Т.	T.	T			
ddle Fork	Weiser									T.		***				T.	.18			.54				T.				. 20	.20			
lner	Clearwater												.02	. 10					.80	.04	.04	****		****	04	.05	24		. 22			****
ore	TOST MIVEL	****								****						.03		.09		. 25	. 08			1.35	.11		. 22	. 04	.02			. 05
scow	Palouse									.83		.30		. 05		.12	.02		.31	.02	. 35			.13				. 30	. 23	.04		
ountain Home	Snake							• • • • •	T.			T.	T.			T.			T	1 00	m.	• • • •				· m		44				
w Meadows	Salmon							.01	.14	.11	. 02		13	.06		.10		.07	257	and the				The second				13	10			
zpercekley	Clearwater Snake			. 00						. 12	. 04				.19			. 05	.51	33							. 10	. OU				
Hara Bar	Clearwater								T.	.52	T.	.22	T.	.20			.42	.06	.30	.04	. 10			.11	.04				****			• • • •
ofino	Bear	.10			. 01		1		T.	.36	.25	.02	T.		.10	.17		.02	.38	. 27	.10	• • • •		. 07			.18	. 04	. 10			
yette	Payette						T.	T.		.08	T.		.08	.02	****	T.																
rsonasant Valley	Salmon										T:		.26				.18		99							. 31					T.	
eatello	Port Neuf		T.						T.		T.		.08	. 35		.08		.09	1.39	.37	.01			.10	T.	.08	T.	.01	T.	T	T.	••••
eatello Nursery	Snake																			****	****											
thill	Kootenai									.61				.13		.35		.11	.47	. 05	. 40				.10		.05	• • • •	. 29	. 45	****	• • • •
est River Experi- nent Station:																																****
No. 1	P. d'Oreille.				.01					.75	.18	.16	. 02		.11	.08	. 02	. 05	.33	. 22	.03						. 01	. 13	T.			
No. 2 No. 3	do	T.		03	1	1				76	04	1.5	0.4	.15	. 09	.04	.02	.05	.33	. 28	. 02						T.	.11				
e Creek	Payette			.01				T.	.02	.80	T.	.01	T.	T.	.10	.07	T.	,01	.35 .81 .25	. 28	T.	****			. 01	.08	.11	.11	.05			12
hfield	Big Wood Snake												. 07	T.		T.		T.	. 25	T.												
eberry	Payette																														1	-
eworth	Snake								.10			T.	.10						.11	.09	. 05				. 05		.10		. 16			
pertAnthony	do						1						. 04	.00			T.	.02	. 89	.14	. 01			.08		T.	. 02	T.				
Maries	St. Joe																												****			****
Michaels Priory.	Clearwater Salmon	. 10		****	T.	****		.04	T.	.18	T.	.08	.09	05	Т.	.28 T	T.	.05	. 24	T	.09	****	T.	T.				.25	.21			
ipoint	P. d'Orellle.									.70	. 02		.18	. 45	, 30	. 25	. 25		. 42	.05								. 40				
p Hill	Boise Big Wood								.01	T.	T.		. 04	.04		.01 T	.01	.01 T.	.52	T.					T.	T.	T.	.04	·m·		T. T.	
er City	Big Wood Owyhee							.30	.04				.22	. 05		.10		. 03	. 56	.02	.01	. 01			T.			. 15	. 15			
ier Creekit Lake	Big Wood P. d'Oreille.	. 01											T.			.08		.03	. 20						T.		T.	.16		. 36	.08	
ngfield	Snake													.27					1.07	. 44	. 02	***		.01		. 04	.02				.02	
ing Hill	Boise	****				·m·			T.	T.	т.	****		43	·ii	.10	T	T.	. 55	.06					T.		T.	.10	T.			
nyside	do				1						1																					
pod Mountain in Falls	Payette Snakedo													F83					. 97								T.	.08				
non	do									T.	T.		T.	.28		.13		.02	. 87	. 41	. 02	.03	****	.10	.20	****	.15	.35	.07			
llaceiser	C. d'Alene Weiser			T.	.02				10	.33	.17	. 20		.17	.02	. 23	m		.32	.17	. 06	. 02						. 54	. 66	T.		
ndell	C. d'Alene Weiser Big Wood								.10	. 20			.04	.09		. 24	1.	T.	.12	Т.	.01	****		.02	.12	****	.02	.10	.06			
ston	Bear	. 05		****										.16					. 21	.56	. 15			. 03								
Washington.																																
erdeen	Coast	.18	.04	. 07				Т.	. 32	. 42	. 70	.36	05	10	19	08	02	03	01								ne	14				
cortes	Puget Sound Snake	. 05	.02			. 0		. 02	.07	. 50	.10	.32		.11	.17	.00	. 0.2	.00	.01			.06					. 24	.14		****		
tone	Snake Puget Sound	T.	10	10	T.			T.	. 20	.80	.15	.30	T.	. 15	.10	. 05		T.	.70	.10	. 05			T.		·	. 25	.34	T.			
ingham	do								. 20	.34	.03	.30	.10 T.	. 20	.42	. 06		1.	****	1.	****	****	****	****		T.	25	.30				
ingham (near)	do											.66																				
mewett									.04	.07	.02	.00	.12	1.	. 47	. 26	1.		.01			. 02	.10	****	****	.05	. 23	.44				
mertonwster	Puget Sound Columbia								49	. 22	. 20	T.		.16		. 08											. 22	. 40				
kley	Puget Sound								. 20	1.08	.34	. 24	. 03		.01	.15		. 09	. 44			****					.28	. 55	·m.	****		
nping Lake ar River			T.	T.	T.			.10	. 10	. 25	. 20	.12	. 32 T.	T.	T.			.30	T.								. 33	T.				
tralia	Puget Sound Coast									.84	.08	.06	. 46	.14		.08	• • • •	. 08		.04						1						
rbrook	Puget Sound			. 04						.38	.16	. 52	.07	. 02		. 25		. 22				. 07		6.6.0.0			. 25	. 46				
Elum	Yakima Palouse								.16			. 08				. 03		. 05	.32	10						1	. 05	. 25				
ille. conully	Columbia								T.	.41		. 05	.10	T.		4.4		.00			.15							.57	.10			
lee City	Okanogan Columbia									****									+++-													
iche	Yakima								.17	. 04	. 04								.20					****								
rington	Puget Sound Columbia	****								10		14			.05																	
ton	do								T.	.17	. 08		. 05	. 03	T.	.07		. 35	40				****	`ii			07					
Park	Spokane Puget Sound								. 04	.27		. 09		. 20	.11	. 04			. 42	.38	.15						. 03					
oit e (near)	Columbia								T.	. 40	. 22	.14	. 34	. 35	.06	.37		. 03		T.	. 01			. 05				.19				
glas Lake	Puget Sound							****																								
lenkabush	Wenatchee Puget Sound							. 01	. 05									. 05	.32			0000						. 40				
Sound	do																											****				
nsburg	Yakima Columbia								.16	-				• • • •		• • • •		T.									T.					
S	Coast	.12	. 05	. 06					. 25						. 69			. 25						***			.57					
Simcoe	Yakima								T.																							
t Lake	Columbia Puget Sound			. 26					T.	. 28	.57	.38	. 13	. 38	. 04	. 24	.16	. 22	.36	. 06	.07	. 02			. 26	.16	.02					
Basin	do	- 1	22	01	022				. 39	.35	. 45	. 74	. 69	. 40	. 25	. 47	. 14		. 01	. 02							. 55	.37				
l Creek	Yakima Columbia								. 15	. 15	. 23	****	T.					. 23	.60 T.	т.								. 50				
nite Falls	Puget Sound	. 04	. 12	. 01					. 04	. 68	. 44	.14	. 20	. 23	. 05			. 20	. 05							. 05	. 65					
ys River	Coast						0000		Tr.										.12	m												
									A.	. 02	. 10		. 18			T.		. 06	. 12	1.								0.4			1 7	1000

TABLE 2 .- Daily precipitation for May, 1913. District No. 12-Continued.

0	Watershad														I	ay o	of mo	nth.													1000	-5.2
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Vashington—Contd.																														1		
ene Mountain	Coast								T.	.50			. 24		. 07	. 04			. 31								.20	. 75	. 10			
ennewick	do								. 04	T.	. 05	.11						.11	.09								.39	.35				••••
ent	Puget Sound Columbia	****						• • • • •	. 04	.74	.10	.38		. 02			. 02		. 53			****	****	1111		1111						
ettle Falls	Yakima									. 02			. 15					.18	. 05													
emos	Columbia		. 08	. 06				T.	.09	.35	.14	. 43	. 29	.10	.11	T.	.14	. 29	. 21			****			. 03	.18	.38					
Center Crosse	Palouse							1.	. 21	.18		. 00	T.	.01	.27 T.	T.		. 20	. 23		T.						T.	.16	. 02			
	Valrima		1	(T)	.10			.02		. 15	. 07	. 05	T. T.	.06		. 06	. 05	. 07	24	T.							.02					
ke Kachess	do	.04	T	.10				T.	.15		.08	.12	.10	T.	.08	. 20	.06	. 03 T.	.25 .25 .27								44					
ke Keechelus	Columbia							T. T.	.74	. 07		. 05						. 06	. 27	T.							. 21	. 47				
urel	do								.17	. 32	. 40				. 05	19	.08	.01	.10	.06							.07	. 39				• • • • •
ne Tree	Kettle	.07	. 05	. 01					.26	.10	. 60		T.	.12	. 54	.21	.02	.06	T.			T.					.58					
ngmires Springs.	Puget Sound																										. 05	.04				
st Creek	Columbia									.09	T.	.01	. 12	T.			****	****	. 05	.01		****					.05	. 13				
Conihe	do							T.	.10	. 20	. 40	.10						. 05	. 05									. 60				
ses Lake	do								15	T.	.16	.30	20	• • • • •	T.		.19	. 09	.10	. 29				10								
ttingerunt Pleasant	Coast	T.							. 15 T.	.36	.48	.15	.19	.12	. 03	T	T.		.01			T.				T.	.12	T.				
xee	Yakima Pend Oreille							T.	. 05	. 03		. 04	. 06		T.			. 03	. 36	. 01	70							. 45	T.			
wportrth Head	Coast	14		04				. 01	. 24	. 60				.01		. 13	. 03	T.	.4/	. 05	1.	.01					1.08					
rth Sundale	Columbia							. 04	. 04		.74		.18					.17	. 21	.02								. 26				
rthport	Yakima	70						. 05 T.	. 20	.17	.10		.02		.04		T.	. 15	. 04		. 03					· ir	. 57 T.	.01				
rth Yakima	Yakima Columbia	T.						1.	T. T.	. 01			. 25			• • • •		. 03 T.	. 33	T.	. 26					1.	T.	. 29				
a	Puget Sound								. 08	. 50	.42		. 04	. 03	. 05	.28						T.				T.	.13	. 22				
mpia	Okanogan								. 23	. 83 . 53	.32 T.	.36				.14		. 02	.03								.58		.34			
oville	Okanogan									1.40			. 20		T.			. 10	. 25								. 10	.30				
la	Snake								. 03			. 27	. 15	.10		.04	. 03	0.4	90	UG	19			.04	T.	-m	. 27	. 58	.06			
meroyt Crescent	Coast				T			T.	.06	.75		.10	.03	.07	.02	T.		Т,	.10	.02		T.		T.	. 02	T.			.20	1		
t Townsend	Puget Sound				.12			.06	. 05	. 18	. 10	. 52														-	AM					
sser	Yakima								.07				.28		T.			. 04	.05 .23 T.		• • • •						.07	.21	.07			
ets River	Palouse	. 07	. 09	. 13		T.	T.	.01	.08	. 55		. 65	. 53	iii	1.02	. 41	.02	T.	T.			T.	.02			.30	.32					
niault	do	. 03							. 40	. 45	1.10	1.50	. 50	.80	.80	. 69	.02	.12	T. .01								1.05	. 56				
rdan	Kettle								.07	. 60		.01	.04	.06	.04	.03	01	. 35	06			****					12	1.	T.			
oublic Creek	Columbia								.15	. 29		.11		.00	1.				.06										.00	3		
zville	do											.03	.12					. 19		.09						.03						
bertsville k Lake	Palouse												••••					••••		••••												
salia	do								. 21	. 21			.07	.07	.02			. 10	. 40	.15	. 16						. 21	T.	. 03	3		
ssells Ranch	Yakima			T. T.				.17 T.	.07	. 13	.04		T. T.	T.			T.	.07	. 10	7						. 04	. 62	.04	T.			
ttle Iro Woolley	Puget Sound			1.	.01				. 36				.01	.02	.10	.04										.03	.20	.46	. 02	2		
prong	Columbia																										95	:10				
ngit Power Dam	Puget Sound	28	02	. 28			• • • •	.08	. 15	. 30	. 12			.42	.10	.38	.05	****				****	.03				.44					
oqualmie Falls	do	T.	.02	. 13	. 18				.13	. 60			. 15	T.	. 05	. 07	. 57	. 05	. 15	. 02							. 35	. 20	. 01	l		
qualmie Pass	Yakima Columbia		. 39	. 11			.12	. 19 T.	.35	. 07			••••	.09			.12	12	. 40	. 16 T						.02		118				
ders Ranch	Coast	. 22	.06	.02					. 31	. 15	. 41	. 52	. 15	. 15	. 23	. 20 T.		.11	.01				.01			.01		. 19				
kane	Spokane	·		T.				T.	.01	. 20			. 02	.07	.02	T.	T.	. 15	.26	.15	T.						.02	. 40	T.			
te University	Puget Sound Columbia				.08		••••		T.	.19		. 13		.01	. 03		.01		. 18			••••				1.		. 20	T.	1		
mner	Puget Sound								. 32	. 49	. 10	. 45	. 13		.04	.07		. 02	. 08								. 51					
nnyside	Yakima Puget Sound		****		****				T.	T.	.28	.15				.01			.12							T.	.72					
toosh Island	Coast	.02	.03	T.					. 21	.66	.30	. 41	. 50	.25	. 65	. 08		.01			.02	.03	.05			. 50	.03			T.		
ton	Yakima							т.	.04	.08	T.	.02			.04				.16	.06				70				.89				
ichet Ridge	Columbia			.06				T.	.08	.02	11	.08	.01	.02	.13	. 12		.32	. 16 . 08 . 15 . 55 . 06	T.	••••	****		.10		****	T.	T.			1	
nidad	do								T.	.03		T.						T.	. 55								T.					
ncouvershon Island	King	.01	T	T.					.07	. 29	. 25	. 44	.02	.03	.03 T.		T										T.	17	.01			
hluke	Grant										.09		.09			T.		.04	.40	T.								. 11				
llacella Walla	Okanogan								. 16	1.98	.14	.06	.12		.04	. 12		.09	1.07	. 37					1		. 16	. 42	. 34			
lla Wallashougal	Walla Walla Clarke							T.	.06	. 30	.14	60	15	.08	.04	. 20		. 60	1.	.0i	****			. 03		****	T.	. 03	T.			
terville	Douglas								. 42	. 10	T.	T.						T.	T. .33 .54 .88	T.							.04	. 3				
natchee	Chelan							т.	. 11	. 15	T.	T.	. 03						. 88	m	••••						T.		3			
natchee (near) ite Salmon	Klickitat	• • • •			••••			T.	.08	. 10	T.	1.	.00			****	****	.11														
bur	Lincoln									. 25	.02	. 42			T.			. 55	.04	. 36	T.						. 27	.01	l			
nd River	Skamania			T.					.07	. 22	. 30	1.01	. 25	. 10	. 05	. 30		. 29	.09	T.					****		.03	T.				
olt	Okanogan Clarke						****	••••	.04	. 30	.96	.80	. 16	.04	.16			. 60														
е	Clarke			. 12					. 12	. 30	. 45	. 80	. 10	.05	. 22	. 36		. 30	.06									.11				
sh	Yakima																								****		****	****				
Oregon.																																
ency Plains	Deschutes							.08		.10	.48		.08					.18														
oany	Willamette			. 02					T.	.35	.19	.28	. 30			. 13		.21	.42									11	.2			
oinea River	SE. drainage	****	****						. 20	. 20	. 45	. 15	.20	****	.11		****	.36	.07			lane.										
hland	Rogue								T20	.18	.12	T.	.83	.12	T.			.04	.26								T.	.30	T.			
oriastin	Columbia	. 02	.04	.11					. 29	. 22	.47	.57	.05	. 21	. 26	.10	T.	.08	.08					••••		T.	.57		0			
ker	John Day Snake						.07	.18	T.	. 15	.08		.13		.01	.02		.17	.02	.02				T.	T.		.00	.1	1 .1	i		
									.17	.09	.17		.03						.22									.0	5 .1	3		
ar Valley	Deschutes SE. drainage							••••		.09	.02	.08	.05	T.		.04	T.	.07	.08	.06	07	••••	••••	••••	. 18	••••		0.0	5			
mountain.	Willamette.	.02		****		****		••••	13	.33	.40	.35	T.	T.	.12	.06		. 40	.52									.10				
id	Deschutes John Day	. 04							. 10	.00	. 40	.00				,00														1	1	1

Table 2.—Daily precipitation for May, 1913. District No. 12—Continued.

Stations	Waterhad														1	Day	of mo	nth.					*										1
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	-
egon—Continued.																																	1
ack Butte	Willamette								.15	. 40	.50	.35	.10		.05		.15	-85										.20	.30				
alock	Columbia								T.	.16	.36	T.	, 2		T.			.17	.09	T.								. 15					
gan	Umatilla								.10	. 20	. 20		. 18	.13	.15	.15		.13	. 85					.10	. 23								-
ena Vista	Malheur				.01		.03		.40	.10	.20		.70		.01	.30	.10	. 10	.20	T.					T.	.01	.70						
rns Mill	SE. drainagedo RogueUmatilla Columbia Willamette do Rogue SE. drainage				****			.02		.03	T.	T.	.02			T.	T.	.15				****				****	15	.12	.02		****		
tte Falls	Rogue								. 05	.35	. 22	. 02	.50		.04	. 02			. 52								.15	.08	. 01				
fornia Gulch	Columbia			.13				.21	.27	.27	.30	.48	. 63	.12	.04	.63	. 43	.28	. 10	. 60							.14	. 16		.12			
cadia	Willamette	.12	. 01	.03					. 19	. 65	.38	.34	.56	.09	.31	.34		. 95	.35							en.		.13	. 21				
tral Point	RogueSE. drainage Willamette.	.00	.04	.00					.13	.13	.12	.01	. 53	. 11	.03	.00	.42		. 76	. 33						1.		. 10	.03				
istmas Lake	SE. drainage							***	T.	. 29		.35						.04	. 07									T.	. 33				1
r Lake	SE. drainage	.00	.00	.04				. 99	.01	. 90	.10	.18	. 58	. 22	. 39		. 09	.08	.02								.11						
ımbia Mine	SE. drainage Snake			T.	T.			.32	.17	.08	.18	.35	.21		.10	.10	, 25	.05	. 35	.05	.05						.02 T.	. 55	. 15				
donuille River L. H.	John Day Coast								.09	.06	. 64	.24	. 3		.10	.05		. 32	.18	. 03				T.				T.	.10				
nucopia	Snake					1	T.	.07	.06	. 67	.21		.11	. 27	.05	.22		.05	. 32	.02	T.						.02	.18	. 14				
vallis	Willamette Snake	T.					T.		.08 T.	.38 T.	. 34	T.	.00		T.	. 05		. 51		T.							T.	. 19	. 05 T		****	T	
cent	Deschutes								.01	. 21	. 23	T. T.	.16			.02		.02	. 23	T.				T.			. 35						
dwood	John Day Coast	.01						.01	.22	.11	.80	.51	T.		.26	.35		.28	T.									. 10	.01				
mond	SE. drainage							.22	.22	T.			T.		.15		F83		. 47									T.	.56				.1
avillein	Columbia Umpqua	. 02	.01					T.	.11	.28	22	.23	. 07	.43	.15	.07		$.26 \\ .26$.01	****						.01	.27	. 05	.06			••••	
ur	Umpqua Columbia							.04		.08	.17	.06	. 02		.02	.01		. 25										. 42					
0	Umatilla Columbia								T.					T.																	••••	••••	
body	SE. drainage								.02	.09	.12	.20	.21				T.	T.	. 03									. 42	.01				
eneview	Willamette Coast									. 53	.12	. 62	. 60	. 39				. 21												T.			
Glen	do														.04	.02		.12	.07									. 05	. 01				
ence	Malheur						.03	.04	.17	.04	.74	. 43			.28	. 25																	
st Grove	Willamette								. 05	.35	. 20	. 60	.05	.01	. 03	.01		. 25	.03								lua val	.04					
Rock	SE. drainage Rogue								T.			T.	. 42		T.		T.	.03	15					****				. 25					
diner	Umpqua																****																
sbutte	Umatilla Deschutes																																
1000	Columbia								.10	.08	.51		.20			.10			.10	. 15													
ndale	Umpqua								40	95	A5	95	90	15	12	94	20	19									.34						
d Beach	Rogue								. 40	. 20	. 40	. 30		. 10	.10	. 24											.04						
den Falls nts Pass	Coast												. 03	.01	. 03	. 46		.31										. 15					
ss Valley	Rogue John Day								.16	.12		.05		. 39			.41	1.	. 23			****			****	****	.76	.09	****				
enhorn	Snake	T.	T.	.01			. 05	.42	.06	.08	. 15	.12	.11		.06	.08		.18	.18	.04		****			T.		.04	.33	. 03				
dane	Columbia							. 01	.02	.01	. 03	.05 T.	.10	.00	.07	.03		.02	.02	.02	.04						.01	T.		T.			
py Home	Umpqua Coast	.38				700			. 45	1.12	.94	.08	. 13	.04	.02		. 03	. 27	.16									. 45	. 35				
bor	Deschutes					1.	T.	1.	.04	.16	.35	.27	.07		T.	T.	T.	. 23														T.	
eldell	Willamette								.30	.13	. 24	.20	T.				. 44	. 50	.10									.12					
dworks	Columbia		.14	.18	.02			.03	T.	. 45	. 23	.55	. 18	. 10	. 29	. 41		. 95		. 19													
miston	Umatilla									T.	. 15		. 20					.18	.06														
gard	Grande Ronde.						****	.15			. 10		T.	T.		. 50		. 25	T.	. 30							. 30	. 90	. 10				•
crest Orchard	Rogue																																
lywood Orchard od River	Columbia			T.				T.		.40	.32	.05				. 10											****	18					
No. 2	do			. 02					. 07	. 29	. 22	.08			T.	. 10		. 25															
No. 3 No. 4	do		****			****			. 14	.27	. 22	.08	Т.		T.	.05		. 27													****		
No. 5	do																																
vardville	Willamette Gra'e Ronde			.06				T.	. 36			.12		.09	. 18			.67	. 27	. 07							.60	. 16	. 10				
ntington	Snake								.04		.02		T.	T.		T.			. 01	T.	.04								. 03	T.		T.	
Mine	John Day Deschutes	.04	****	T.	. 16	****		. 29	. 16	.05	. 23	.20 T	. 23	T.	.02	. 04	.03	. 12	.40	. 08	. 04						Т.						
side	Snake								. 12	. 22								.07	. 18					. 01	. 04	. 13		. 54	. 15				
n Day	Rogue John Day								.07						.03			10	. 43		****							. 28					
ph	Gra'e Ronde	. 50							. 25		. 20		. 10	.40	.12		. 10	. 30	. 25	.07							. 10						
math Agency math Falls	Klamath									90	90																						
Grande	Gra'e Ronde																																
llaw	Deschutes							. 09	T.	. 06	. 44	· · · ·	. 08			T.		. 15	. 03								.01						
eviewine	Pitt Deschutes							. 20	.06	. 28	.26	Τ.	. 17			. 02		. 08	.06	Τ.	T.						. 08	. 13					
glen	Rogue	. 02								. 36	. 12	. 08	. 50	. 10	. 05			. 13									T.	:56	. 17				
g Creek Cenzie Bridge	Willamette							. 06		. 09	.73	.21	. 19	.01	. 10	.41		. 65	. 21	.01	.03				T.		. 01		.01				
finnville	do						****			. 16	. 50	. 12	.01	T.	. 12		****	. 24										. 11	. 08				
shfield	Coast Deschutes						T.	T.	. 05	. 10	.07		. 25			.26		T.	. 02	****			****	. 02		****	****		.05			****	1
dowbrook Reh.	Columbia			. 02	.02	.09	. 34	. 44	. 07	.02	. 06		. 17		.29	. 03												. 20					
ford	Rogue Int.drainage.								. 16	. 16	. 05	T.	. 59	.01	.01																		1
olius	Deschutes																	. 13									.50			****			
amonte Farm	Willamette	.03		.01		****			. 09	. 33	.38	.39	. 04	.01	.08	.21	T	.55															
int Angel	Willamette			. 05					. 14	. 32	. 23	. 57	. 16	. 02	.21	. 25	1.										. 15	. 24	. 04				
intain Ranch	Rogue							****	. 17	. 20	. 40	. 30	. 35								****						****	. 22					
int Hoodiek	Columbia Umpqua	. 19	****		****				. 32	.20	.37	. 40	. 19	.11	.07	. 55	. 19	. 23	. 09	.13			• • • •				. 03	. 29	.11				
port	Coast	. 02							. 21	. 03	. 68	1.05	. 09		. 25	. 30		. 20										. 29	.02				
.000	Deschutes							00	0.3	. 01	. 45	777	771					11	26	753								T.				1	4

TABLE 2.—Daily precipitation for May, 1913. District No. 12—Continued.

															1	ay o	of mo	nth.															
Stations.	Watershed.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Motol
regon—Continued.																											-			7			
rtley	Columbia			. 04				T.	. 09	. 25	. 23	. 03			T.	. 06		. 17										. 40					. 1
wyhee	Owyhee												. 45	T.					.38	. 03	. 05												. 0
aisley	SE. drainage																																
arkdale	Columbia							T.	. 04	. 22	. 20	.04				. 03		. 26										. 25					
endleton	Umatilla							. 05		. 15		. 17	.05 T.		.02	. 02	T.	T.	.38	. 22								T.					. 1
eninsula	Deschutes							.07		. 28								. 07									. 07	. 56					-
ersist	Rogue	70								.09			. 63		. 10	****		****	.08					****				. 08			****		
ilot Rock	Umatilla	T.						.04	. 09	. 10	. 17	. 13	. 02	. 02	. 39	. 02	. 16	.30	. 15								****	. 05	. 05				-
ompeli	Columbia Willamette			00				T.	10	. 25	.27	. 19	T.	02	. 10	****		.54	01							T.	T.	07					
ortland				. 02		****	T.	1.	.12		1. 20		. 15		. 10			. 27								1.	T.	. 07					1
ort Orford	Coast Deschutes				****		1.	****	.04	.09	1. 20	.05				. 22		.08						****				. 00	.09				-
ost	do							.03		.02	. 40		. 05				****	.08					****	****	****	****		. 40			****	****	
owell Butte	Columbia				T.	****		.03		.02	.08		. 02		. 03	00		.77						.01			. 13			****			-
ower House	John Day							. 10		. 02	.04	.05	. 08		.00	T.		. 14						.01			. 05						
rineville	Deschutes							. 10	. 00	****	.03	. 00	. 00			1.		. 14			****			****	.00	****	.00	.00	-				ar.
rospect	Rogue			****					. 10	. 25	.30	.01	. 43		01	.08		. 03					2200			****	. 05	.08	07				
ager Creek	Deschutes									. 14						. 00		. 00	.24				****		.01		1.00	. 92		1		****	
amsey	Columbia							T.	13	. 08		. 05				.02		. 26										. 35			1	****	
ange	John Day									T.	.30		.50		T.	. 10		. 10		. 10							T.	. 10					
ay Creek	Columbia							. 14	T.	. 10					T.	.01		. 22									1	T.		1			
edmond	Deschutes																														1		1
eston	Umpqua								. 16	. 22	. 18	. 02	. 13		. 04	. 02		. 10	. 03									. 04					
ichland	Snake																																
iddle	Umpqua								. 02	. 25	. 11	.01	. 26			. 01		. 04	. 19									. 08					1
iley	SE. drainage		. 10																														
io Hermoso	Deschutes									. 52	. 36	. 06	. 07					.37										. 34					
iverdale	do Malheur							. 02	. 02	. 02	. 02	. 12	. 52	T.		T.	T.	. 03	T.						T.			T.	. 13	T.			
Riverside																																	
Robbville	Deschutes										. 20		. 30					. 27									. 60						1
Roseburg	Umpqua								.31	. 10	.06	. 30	.21		. 03			. 29										. 20					. 1
Rosland	Deschutes							.34	T.	.32	. 38		. 14			. 08		. 13	.04									. 34					. 1
alem	Willamette	T.	T.	. 13					. 05	. 36	. 32		. 22		.02	. 04		.38										. 02	. 14	1			. 5
eneca	SE. drainage						. 04		. 05		. 10		. 10					.06	. 02									T.	T.				. (
ilver Lake	do								. 29				. 45						. 06									. 14	. 02				. (
iskiyou	Rogue	****								. 24			. 52						.20										. 10)			
isters	Deschutes							. 10					. 17					. 11									. 46	. 08					. 1
parta	Snake			T.				.01					. 18	. 03		T.	. 05										. 10						. 1
tafford	Willamette	.04		. 04					. 10	. 39	. 27	. 47	. 05	. 04	.09	. 10		. 59	.11	.01							T.	.10					
tarkey	Gnd. Ronde.							. 18			. 16	.21	. 16	. 04	.04	. 11		.30	.28	. 29							. 20						1 3
ummit	Willamette								. 23	. 15	. 32	. 16	. 02	. 03		. 12		. 32										. 12					
usanville	John Day							. 30		T.			. 30	. 45		. 10			. 60						. 06		. 05						- 1
ablerock	Rogue									. 20	. 05		. 60		.01				. 17									. 22					
alent	do								. 16				. 68						. 32									. 30					
amarack				T.				T.	.24	. 23	. 22	. 16	. 37	. 03		T.	. 10			. 12				T.					. 03	5			-
he Dalles	Columbia		****					T.	. 09	. 03	. 36	.04			. 04			. 08	. 08								. 28	.04					
'illamook	Coast			. 05							****	****						****	****														:
rail	Rogue			. 00							. 40				.20	. 30		. 30															
		****	****						. 10	. 26			. 45		T.			****	. 17	· · · · ·			T.					. 38				****	-
Imatilla	Columbia Gnd. Ronde.				****					40	. 26				. 01			. 20			T.												. 1
Inion	Malheur						. 05			. 42		1			. 03				. 19		T.					0	. 09						-
alley Falls	SE. drainage			****			****	****	. 08	. 03		****	. 04						. 41		. 02					.08	70	. 02				****	
an	Malheur											****	. 63	T.					. 53	. 05			1				T.	1.2	T.				-
ida	Willamette .		T.	T.					.11	.57	.30	.32	.34	T.	10	40		.80	.23	.01													:
istillas	Pitt	.09	1.	1.					. 11	.27					. 12	. 48							****				00	. 04		9			-
Valdo	Rogue	****					****	****		. 21	. 10	. 02	.00					.01	. 31								. 02	.00				****	-
Allace Orchard	Willamette .	. 10		. 09			****		.09	.33	. 46	66	. 05	T.	.04	. 08		.35								T.		03	00			****	
Valloupa	Gnd. Ronde.	.01		. 00	. 04				.09	, 98					.04			. 03		T.			1	.02		3	82	. 00					
Vallowa	do	.01		T.	. 04			.36	T.	. 54	. 48	.08						. 03		.01			1	T.		1 . 00	. 82						
Vamic	Deschutes	. 91		I.				. 30	.11		.27		1 . 15					.20		.01				1.			. 03						
Varmspring	do					1		. 19	. 11	.06		.06	10		. 10	. 00	. 06		1						0000	1	. 50	. 54					1
Vasco	Columbia		1			1		.03	T.	. 15	. 64	1 .12			T.	. 03			. 05				1				. 00						-
Velches	do	19	. 03	36	1/			.00	. 15			. 12		.00				.33		.06								.74					-
Veston	Walla Walla		.03			1		T.	.30		. 19		10	.00		. 02	.51		. 94	.00				T.	T.		. 04	T.	T.				-
Vhitaker	Deschutes							1.	. 00	. 04			02		1.		. 31	. 03	. 12					1.	1.		. 04	.19					-
Villiams	Rogue								. 03					5				.03	.12									110					-
onna	Int. drainage						1		.00	.04									16									.00					
				10000			10000			1 03	1 . 00		1 . 16						40												· Barre	Inna.	

^{*} Precipitation included in that of the next measurement.

† Separate dates of falls not recorded.

| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

TABLE 3.—Maximum and minimum temperatures at selected stations for May, 1913. District No. 12, Columbia Valley.

		Mon	tana.														Idah	0.										
Date.	Kali	spell.	Miss	oula.	Aftor	,Wyo.	Во	oise.		ners	Hots	pring.	Lewi	ston.	Mac	kay.	Ne Mead		Poca	tello.	Saln	non.	Shosl	hone.	Veri	non.	Wal	lace,
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1 2 3 4 5	48 54 51 47 51	25 28 34 27 35	50 52 47 50 52	26 32 40 32 35	40 40 53 55 64	23 20 21 35 25	54 57 60 62 74	35 28 35 41 41	49 60 61 52 60	24 28 40 24 28	50 63 66 67 76	25 32 31 35 39	58 65 63 61 75	37 35 45 50 44	55 53 57 61 66	28 24 26 33 35	46 52 49 48 54	24 24 26 34 28	50 50 57 60 69	34 32 34 46 42	59 61 61 59 72	16 28 31 40 40	58 56 59 62 72	21 23 32 35 33	45 50 58 61 65	30 24 20 39 29	48 55 52 51 64	26 28 37 30 39
6 7 8 9	64 71 65 65 62	32 42 44 40 37	72 76 65 70 67	31 37 46 48 36	69 73 75 74 73	29 31 33 30 31	83 78 76 74 70	48 55 48 54 45	68 74 62 60 53	28 34 44 45 35	87 85 82 80 77	44 50 46 50 45	83 83 85 65 67	43 46 60 53 47	73 73 70 72 70	34 45 41 38 45	54 74 70 68 64	30 48 42 40 44	77 80 75 78 69	42 50 46 43 46	80 80 79 79 72	28 49 44 42 37	82 87 79 76 72	45 51 46 51 42	73 76 75 77 72	31 38 47 38 39	74 76 72 60 65	32 38 48 42 39
1 2 3 4 5	60 59 59 55 54	38 31 39 33 37	59 62 64 58 58	42 36 42 30 39	63 63 56 52 66	34 33 32 38 31	64 65 58 65 63	41 45 40 35 48	60 52 62 50 52	37 32 34 35 38	74 78 65 70 75	38 45 45 34 47	68 59 63 61 66	48 46 45 39 48	65 64 51 57 58	35 35 36 30 32	65 62 52 54 58	34 46 32 25 38	63 64 52 60 64	45 41 38 36 49	70 70 60 67 68	38 41 42 24 41	66 70 58 63 67	38 42 37 30 40	73 56 52 54 57	39 37 36 32 41	58 57 52 50 55	42 33 36 32 37
6 7 8 9	47 58 55 58 62	35 33 41 38 41	57 57 48 56 58	34 30 43 41 42	58 62 64 44 55	34 33 31 32 36	62 67 58 63 66	40 48 44 40 47	54 52 53 60 62	32 41 38 38 39	69 77 75 69 73	44 44 50 43 50	65 61 58 62 69	41 43 49 48 44	57 60 57 55 56	31 38 40 35 37	59 55 56 58 66	29 38 38 33 38	61 69 56 56 57	48 44 39 36 45	64 67 60 59 66	37 31 44 41 42	64 74 59 65 66	40 45 47 37 46	59 62 53 51 49	39 37 42 36 37	58 57 45 56 59	30 31 42 42 42
1 2 3 4 5	65 73 68 76 77	36 38 45 42 48	70 78 67 77 80	32 38 42 40 44	60 70 73 74 74	32 30 32 35 43	76 84 82 82 82 84	47 49 59 56 54	70 75 76 77 70	35 41 41 46 45	82 88 90 80 89	50 45 54 52 54	77 86 79 84 84	44 47 55 49 54	68 68 64 72 75	35 34 33 39 40	71 78 72 76 76	28 32 40 38 38	66 76 79 79 80	40 45 51 48 50	76 83 82 81 87	33 33 37 41 46	76 84 85 84	36 46 49 50	62 70 76 74 74	35 36 43 44 40	70 78 76 79 78	35 39 43 42 44
6 7 8 9 1	81 69 68 73 75 ,80	44 53 50 50 43 47	87 82 74 74 80 84	42 56 48 54 40 42	81 75 77 76 77 69	40 44 49 40 40 33	94 82 72 77 80 83	58 57 53 48 49 58	66 67 64 72 78 82	45 47 51 44 41 45	95 80 80 77 85 88	55 65 52 50 51 52	89 75 64 74 83 91	53 59 50 46 47 50	72 73 75 70 75 74	44 46 44 42 47 46	85 73 60 62 71 73	39 51 58 47 40 45	85 82 80 72 78 82	54 57 53 53 51 46	91 87 85 78 84 88	40 52 45 44 43 49	91 90 84 74 82 85	53 52 49 44 46 48	82 80 74 76 80 80	44 51 48 46 45 46	85 75 58 71 79 84	43 54 52 43 39 44
fns	62.9	38.9	65. 5	39. 4	64. 7	33. 2	71.5	46. 6	63.0	37.9	77. 6	45. 7	71.7	47. 3	65. 0	37. 0	63. 3	37. 0	68. 6	44. 6	73. 4	38. 7	73. 0a	41. 8a	66. 0	38. 4	64. 4	39.

															Wash	ington												
Date.		ston aho.	Aber	deen.	Bla	ine.	Colv	ville.	Kos	mos.	Lake	eside.	No He	rth ad.	No Yak	rth ima.	Ode	essa.	Po	ort cent.	Sea	ttle.	Sixp	rong.	Spol	kane.	Tacc	oma.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1 2 3 4 5	49 52 59 69 72	31 26 21 32 29	54 56 56 57 70	41 44 46 40 34	56 54 54 55 58	42 44 46 41 34	56 64 61 59 70	24 27 30 27 28	48 60 50 68 84	35 39 42 48 35	61 67 63 64 68	37 42 42 36 41	47 50 49 53 54	42 45 46 45 45	60 71 68 66 70	34 32 43 41 40	58 63 64 61 68	26 28 39 31 38	51 50 50 49 57	41 40 43 38 30	52 55 51 55 60	42 44 45 42 45			53 58 59 55 65	36 35 38 35 37	51 57 54 55 60	40 42 45 42 44
6 7 8 9	78 80 79 79 77	32 37 40 37 36	82 60 58 60 54	40 50 38 45 47	64 64 59 56 60	32 38 47 48 44	78 82 73 65 64	30 37 52 49 46	76 70 63 55 55	32 38 44 46 39	76 75 69 62 59	41 46 53 50 41	60 53 56 56 56 52	49 45 51 51 47	78 80 80 70 64	41 48 54 52 43	78 82 80 72 59	36 39 57 50 37	64 56 57 54 57	40 39 44 41 40	67 60 60 58 56	46 45 51 48 47			73 79 75 58 59	40 44 56 50 45	67 61 59 57 57	45 45 50 44 46
11	67 65 64	48 38 38 28 34	60 58 60 61 57	46 41 44 44 44	59 59 59 56 58	46 45 41 44 45	66 61 62 57 60	45 43 42 38 37	55 57 58 53 65	42 43 40 43 40	65 66 68 66 66	42 44 42 47 40	53 52 53 50 52	46 48 47 48 47	64 68 68 64 69	38 37 38 45 40	64 62 62 60 66	39 42 33 40 40	54 52 52 52 52 55	41 38 36 42 40	57 57 56 54 57	46 45 44 46 47			61 59 55 52 62	44 43 41 40 42	57 57 58 55 57	46 45 42 45 46
89	75 70 50	46 39 45 37 38	63 65 58 63 64	38 43 44 49 42	57 59 65 65 64	46 36 36 48 46	65 64 53 64 65	30 30 44 43 40	56 55 58 60 64	42 45 45 44 46	70 63 58 66 73	39 43 45 42 46	52 56 52 52 54	45 50 48 49 49	68 65 62 68 71	37 42 44 44 41	64 61 59 65 68	34 37 44 38 39	54 59 57 56 57	36 35 39 45 42	58 58 62 61 64	44 46 48 48 47			62 60 51 58 62	38 40 45 45 43	58 57 61 60 65	43 45 47 46 44
1 2 3 4 5	68 77 80 77 83	32 36 41 46 48	67 68 68 67 67	40 49 45 44 44	62 66 69 66 65	41 46 43 42 47	77 82 83 81 78	35 43 44 42 42	80 79 79 60 57	37 38 41 46 49	79 83 84 83 80	50 50 52 53	57 56 54 55 58	48 52 51 50 50	78 84 84 83 83	42 52 54 52 49	75 80 81 80 79	41 41 45 45 49	59 58 57 57 58	40 46 40 38 44	71 67 70 68 68	46 49 50 48 50			72 78 79 79 76	42 47 49 52 55	72 69 70 69 68	44 48 49 47 48
% 7 8 9 1	84 83 82 80	46 47 48 55 51 42	61 64 62 67 66 75	52 46 41 41 51 51	57 61 64 64 68 71	52 50 42 43 42 43	73 72 71 82 87 90	44 50 50 42 42 43	77 72 76 80 82 86	40 37 43 38 39 42	72 68 75 78 85 88	53 50 53 51 52 56	54 53 54 56 54 54	52 50 50 50 52 52	81 68 70 78 84 86	55 53 51 50 51 56	76 71 72 76 83 88	51 53 46 39 42 46	54 56 56 59 60 66	46 43 39 38 42 47	59 57 61 67 70 71	54 50 49 49 51 53			77 70 66 74 80 86	56 56 53 47 47 47 51	59 56 63 67 69 68	54 50 49 46 47 52
Ins	72.1	38.8	62.8	44.0	61.1	43.2	69.8	39.4	65.7	41.2	71.0	45. 9	53.6	48. 4	72.7	45. 1	70.2	40.8	55.9	40.4	60.9	47.3			66. 2	44.9	61.1	46.0

TABLE 3.—Maximum and minimum temperatures at selected stations for May, 1913. District No. 12—Continued.

		Washi	ngton.												Ore	gon.										
Date.	Tate Isla		Wa Wa	alla Ila.	Ash	alnd.	Bal	ker.	Eug	ene.		old ach.	Herm	iston.	Marsh	nfield.	Port	land.	Princ	eville.	Rose	burg	The I	Dalles.	Va	le.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1 2 3 4 5	50	42 44 44 43 40	58 64 61 63 72	38 40 46 44 45	55 63 67 72 79	35 31 38 40 44	47 54 54 55 70	27 33 35 37 34	72 70 75 78 82	34 36 34 38 42			64 70 70 76 75 76	40 33 49 40 37	57 59 61 66 71	34 32 45 37 39	51 61 61 62 73	41 46 47 44 46			54 66 65 71 79	37 33 41 47 40	61 69 67 68 74	38 41 49 43 40	59 64 72 75 80	34 32 37 35 34
6 7 8 9 0	52 55	45 47 46 45 46	81 78 83 64 62	50 55 55 51 46	82 76 67 64 61	48 55 46 41 45	77 73 72 63 60	39 45 44 48 40	75 68 69 70 72	40 32 33 37 40			83 82 84 72 71	35 39 48 42 41	62 64 60 62 60	44 48 45 45 48	84 69 62 65 59	50 50 52 50 50			86 72 64 64 62	47 48 40 47 49	81 80 76 68 63	42 49 53 50 46	86 85 81 71 73	38 47 44 50 42
1 2 3 4 5	52 52 50	47 45 44 44 44	67 61 61 61 65	47 46 45 46 47	60 55 57 63 65	36 40 40 37 41	59 49 51 58 62	35 39 33 29 40	73 70 64 60 68	42 34 30 31 34			72 70 65 64 64	39 46 41 45 43	55 60 60 58 55	46 46 42 38 48	55 62 60 54 60	47 48 45 47 47			62 59 62 63 63	47 45 42 42 48	67 67 67 62 67	41 43 41 46 44	68 70 65 68 72	32 40 41 27 47
6 7 8 9	57 53 56	46 46 49 48 48	65 61 54 62 71	43 45 47 47 49	70 71 61 65 71	42 43 42 39 45	56 59 50 54 62	33 43 35 35 39	70 72 75 77 69	36 40 41 38 32			70 71 69 70 75	41 40 41 45 37	66 54 59 60 63	37 49 42 37 36	62 56 61 65 71	41 49 49 46 46			66 58 63 68 74	43 48 47 43 44	69 67 68 72 77	43 50 48 44 42	69 69 62 70 75	40 48 47 38 49
1 2 3 4 5	59	49 49 48 48 48	78 82 82 81 83	51 57 60 57 60	77 79 79 80 80	46 49 41 49 50	72 80 73 74 79	36 42 51 40 44	78 76 78 76 78	50 48 44 40 46			82 85 87 86 88	40 43 53 47 50	64 65 65 64 74	47 44 50 41 40	76 76 73 76 80	47 49 54 50 53			75 82 80 80 86	41 43 49 45 44	80 85 86 84 85	48 53 53 52 56	79 87 86 85 95	38 38 55 52 49
6,	57 55 56 55	48 48 48 47 49	87 70 66 74 84 88	61 54 55 49 52 58	83 67 55 71 80 88	54 47 44 42 44 50	84 75 59 66 75 80	48 52 48 42 45 49	76 78 75 76 82 84	42 44 40 42 42 46			79 80 83 83 87 92	46 47 47 48 41 41	70 58 60 60 62 67	51 50 45 38 45 48	66 59 68 72 76 84	58 53 50 45 52 57			77 62 60 72 82 88	52 50 48 42 44 51	87 77 71 78 87 90	56 55 54 51 52 56	92 86 72 78 87 89	46 60 58 50 52 55
Ins	53.8	46.3	70.6	49.9	69.8	43.4	64.6	40.0	73.7	39.0			76.4	42.7	62.0	43.1	66. 4	48.7			69.8	45.0	74.2	47.7	76.5	43.6

^{•,} b, •, etc., indicate respectively 1, 2, 3, etc., days missing from the record. §§ Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

WEATHER, FORECASTS AND WARNINGS.

By H. C. Frankenfield, Professor of Meteorology.

NORTHERN HEMISPHERE PRESSURE DISTRIBUTION.

Over the United States and the Canadian Northwest, excluding Alaska, pressure was generally high during the first decade of the month. After that time there was a rapid alternation of moderate areas of high and low pressure, none of much consequence, except the final development of a severe storm off the coast of Nova Scotia on the morning of the 30th, when the barometer at Halifax, Nova Scotia, read 28.82 inches. Over Alaska, except on the 1st, pressure was also high during the first decade of the month, and generally low thereafter with only a moderate high area about the middle of the month.

Over the central and southern portions of the western Atlantic Ocean, pressure above the normal prevailed throughout the month and also over the corresponding latitudes to the eastward, except between the 7th and 10th.

Over Iceland low pressure during the first week of the month was followed by the opposite condition during the second week with the high pressure strongly marked on the 12th, 13th, and 14th. After the middle of the month moderately low pressure was the rule. Similar conditions prevailed in a general way over the northern portions of the British Isles, but over the southern portion low pressure prevailed until the 12th with marked minima on the 8th and 9th, and after the 12th moderately high pressure prevailed until the 29th.

Over western continental Europe pressure was low during the first decade of the month and again on the 17th and 18th. During the remainder of the month it was comparatively high. Over eastern Europe moderately high pressure predominated, except over southern Russia, where it was low during the first decade. The conditions over western Siberia were in the main similar to those over eastern Europe, except that over the former area low pressure was the rule during the last week of the month. Over central Siberia pressure above the normal was general and there were at least seven well-defined crests. Nearer the Pacific, in eastern Siberia, eastern China, Japan, and the Philippine Islands low pressure predominated after the first few days of the month, with the best defined types between the 10th and 15th, except over the Philippines, where they were about four days earlier.

Over the middle latitudes of the Pacific Ocean low pressure was the rule, while over the northern ocean it was generally high during the first half of the month and low the second half.

WEATHER IN THE UNITED STATES.

At the beginning of the month pressure was high over the eastern half of the country and low over the western half, except in North Dakota, Montana, and the North Pacific States. There had been showers in the Northwest followed by a decided fall in temperature to the freezing point or lower, while over the remainder of the country the weather had been clear and warm except in the Atlantic and Gulf States where temperatures were moderately low. The principal barometric depression was over the middle Plateau with a narrow trough of low pressure running northeastward to a secondary center over eastern Minnesota. Twenty-four hours later the main center was over northern New Mexico with the

trough still trending northeastward, while the crest of the high pressure had settled down over the South Atlantic States. Good rains had fallen in Nebraska and light rains and snows in Wyoming and the Northwest, while over the remainder of the country clear weather continued to prevail. It was much warmer in the East and South, but quite cold in the West. There was very little movement on the part of the western low area, and on the morning of the 3d the narrow trough extended from the Texas Panhandle to eastern Minnesota, with a low at each end. In the meantime another low of marked proportions had moved eastward over the Canadian Northwest and was central over Manitoba. Pressure continued high in the Southeast and on the north Pacific coast, and thundershowers had occurred over the sections covered by the United States depression, but there were no others of consequence. Temperatures continued to rise in the East and were considerably above the seasonal average, while in the West they remained low with heavy to killing frosts in the Northwest, including Wyoming and western Nebraska. The western depression was much the same on the 4th, but the rain had extended into Texas, the upper Mississippi Valley, and the upper Lake region, and had fallen in greater quantity. At the same time the Manitoba low area had greatly subsided. Temperatures were now abnormally high over the East, and although still low were once more rising over the West except over the rain areas.

It should be noted at this time that a high area that on the morning of the 2d was over eastern Manitoba in moderate form had continued to move eastward, but without increase in intensity until the evening of the 3d. when it was over the lower St. Lawrence Valley. On the morning of the 4th strong high pressure prevailed over the Northeast and extended southwestward through the Atlantic and east Gulf States and the Ohio Valley. The same general conditions persisted until the morning of the 6th, when the disturbance was over Ontario and an area of high pressure of considerable magnitude had descended upon the western portion of the country, with a corresponding pressure decrease over the East and South and the western Atlantic Ocean. Pressure continued to fall over the extreme East, and by the morning of the 7th showers and thunderstorms had occurred over New England, the Middle Atlantic States. and the Ohio Valley. The high area was attended by low temperatures and frosts and on the 6th a special bulletin was issued announcing the termination within 36 hours of the warm wave then prevailing over the East. The high area moved eastward, and by the morning of the 8th had reached the upper St. Lawrence Valley attended by heavy frosts from that section westward, and comparatively low temperatures prevailed over the entire eastern half of the country.

In the meantime (the evening of the 6th) another extensive high area had appeared in the extreme Northwest, but irregular and disturbed conditions prevailed to the eastward and southward with unsettled and showery weather that continued until the night of the 9th, by which time the crest of the high area was over northwestern Minnesota and pressure was generally high over the interior except in the Plateau region. On the morning of the 10th heavy to killing frosts occurred

throughout the Lake region and temperatures much below the seasonal average prevailed over the eastern half of the country, except in the South. Frosts again occurred on the morning of the 11th over the Lake region and extended into the Ohio Valley and portions of the middle Atlantic States. On the following morning (12th) the crest of the high area was over Virginia with much diminished strength and frosts occurred in the upper Ohio Valley, the lower Lake region, and the Middle Atlantic States, including Virginia. In the Middle Atlantic States great damage was done to growing fruits and vegetables by the frost of the 12th, while those of the 10th caused considerable loss of fruit in the upper Lake region. It will be noticed that frosts were persistent over much of the northern portion of the country, especially over the North Pacific States and the extreme Northwest, and practically all, including, of course, those of the central and eastern portions of the country, were

forecast at the proper time. During the 9th a low appeared over British Columbia. It moved eastward attended by showers in its immediate vicinity and by the evening of the 12th it had reached Lake Superior, causing some moderately high winds for which storm warnings had previously been ordered. In the meantime another well-defined disturbance had developed over the middle Plateau. The northern disturbance continued eastward with decreasing intensity and passed beyond the Gulf of St. Lawrence during the 14th without other effect than local showers east of the upper Lakes. The middle Plateau disturbance, however, was of more pronounced type and with a high pressure area to the northward and westward caused general, although not heavy, rains from the Missouri Valley westward, beginning during the night of the 12th. By the 14th the storm center was over Kansas, and the rains had extended into the greater portion of the Lake region. The high area to the northward had increased materially in strength with its crest over Lake Superior. Pressure was also high over the Atlantic Ocean and a narrow area of moderate depression between the two highs had caused rains in the southern portion of the Middle Atlantic States. Rains had also continued in the West and Northwest and cold weather prevailed over the North and West, with freezing temperatures over the northern upper Lake region, the Northwest and the extreme West. Warnings of frost or freezing temperatures had previously been issued. On the morning of the 15th the center of disturbance was ever south of the 15th the center of disturbance was over southeastern Minnestota, with a narrow trough running southwestward into Texas. Rains continued in the central west and had extended lightly into the eastern lower Lake region and the Middle Atlantic States, while the high area had moved to the St. Lawrence Valley, where frosts occurred. After this time the low lost its definite formation and drifted eastward and southeastward with diminishing intensity, passing off the New Jersey coast during the night of the 16th and leaving a slight secondary depression over Virginia and western North Carolina that passed off the coast during the 18th. The rains reached the coast States during the night of the 15th, extending southward to the Gulf of

depression had disappeared.

While the last depression was disintegrating, another was moving in from the Canadian Northwest, and by the morning of the 16th it had reached the Northern Plains States with a moderate high area over the North Pacific States. Thus far only light and scattered showers had attended the depression, but by the morning of the 17th

Mexico, and did not cease until the North Carolina

there was a well-defined disturbance over Lake Superior and a secondary one over Oklahoma. Rain was falling from the Missouri Valley northeastward, and the north Pacific high area had reached the Northwestern States accompanied by a decided fall in temperature, while another low had made its appearance over Nevada. The Lake Superior low drifted eastward attended by local showers, and its intensity diminished for a time, but there was a renewal after the St. Lawrence Valley was reached, and on the 19th it passed into the ocean as a pronounced disturbance. The high area following moved slowly eastward attended by lower temperatures, and by frosts from North Dakota eastward over the Lake region and the north Atlantic States, the frosts occurring over the latter section on the morning of the 20th. Warnings for these frosts were invariably issued on the day previous to their occurrence.

On the 17th pressure was generally low from Kansas and Oklahoma westward, with the principal center of depression over western Colorado and secondary ones over Oklahoma and southwestern Nevada. At this time the low last discussed was over Lake Superior, and pressure was high to the northwestward with rather low temperatures, but there had been no precipitation worthy of mention over the West, except in the lower Missouri Valley. By the morning of the 18th the Nevada low had moved a little to the eastward, while the others had disappeared. Rains, however, had fallen over the middle and northern districts from the Rocky Mountains west-ward, and there had also been local showers over Montana, South Dakota, and the Middle West generally, including the Great Central Valleys. The high area over the Northwest had increased in magnitude and was central over the Dakotas attended by low temperatures over the Northwest and some heavy frosts in North Dakota. On the morning of the 19th the western storm was central over southeastern Wyoming with increased energy, with the cold high area immediately to the northward, and substantial rains had fallen over the northern States from the Dakotas westward, with some snow over portions of North Dakota. There had also been rains in Utah and showers in the lower Missouri Valley.

The high and low areas continued eastward, maintaining their same relative positions, until by the morning of the 21st the low was central over eastern Iowa and the high area had reached New England. Rains had continued in the West and had extended into the South and East as far as the Atlantic States. A storm warning on the night of the 19th for Lakes Michigan and Superior failed of verification, although brisk winds occurred. Temperatures had risen in advance of the low area, and while remaining low in the Northwest had fallen decidedly in the central Plains States and the Missouri Valley. During the next two days the center of the low area moved to the lower St. Lawrence Valley with decreasing intensity, but in the meantime a low area that had appeared over New Mexico on the 20th had moved to extreme northwestern Florida, and on the morning of the 23d a narrow trough of low pressure joined the two depressions. A moderate high area followed, but it was not until the night of the 24th that the disturbance passed into the Atlantic Ocean.

While this disturbance was passing away, changes had been rapid in the interior. The high area of the 23d was over the Ohio Valley and the South on the morning of the 25th, while another of greater magnitude was over the upper Lakes. It had moved from the Canadian Northwest, accompanied by a marked fall in temperature, and on the morning of the 25th heavy and killing frosts

were reported over the Michigan Peninsula. The high areas continued eastward, attended by frosts over the northern districts from northern Michigan eastward into interior New York. In the rear of the last high area a low followed, which had appeared in the West during the 23d. Until it reached the Atlantic Coast its behavior was very similar to that of its immediate predecessor, but on the morning of the 28th the disturbance extended in trough shape from the Carolinas to New York with a center at each end, while a strong high area (30.40 inches) had developed over the north Atlantic Ocean. On the following morning there was but a single center off the New England coast but with lower barometer readings, and the weather had cleared in the Atlantic States, except in Maine. The high area to the northeastward had disappeared, and pressure was also generally low over the interior of the country. On the morning of the 30th the barometer at Halifax read 28.82 inches, a fall of nearly three-quarters of an inch in 24 hours, but no high winds of consequence were reported at coast stations in the United States. Along the Nova Scotia coast, however, the winds were reported to have caused considerable damage. By the close of the month the last traces of the storm had vanished. Pressure rose but little in the rear of this storm, but it was followed by a considerable fall in temperature over all districts east of the Mississippi River.

Pressure was low over the Canadian Northwest from the 24th to the 28th, inclusive, but without incident until the morning of the 27th, when the pressure fall also covered the northwestern portion of the United States and another low of fair proportions covered the Plateau and the Pacific States. Occasional thunderstorms resulted from the Rocky Mountains westward to the ocean, with low temperatures, while to the eastward as far as the Allegheny Mountains clear weather prevailed, and temperatures were abnormally high throughout the Plains States, the Great Central Valleys, and the South. The western low areas moved eastward during the 28th, but on the morning of the 29th and thereafter until the close of the month not much of them remained, except a few moderate depressions that at intervals caused local showers in the Central Valleys and the Middle and South Atlantic States, reaching the latter section during the 31st. At the end of the month barometric conditions were unsettled throughout the country but without much precipitation. Temperatures continued high over the interior States east of the Rocky Mountains and had risen to the westward, except in the middle Plateau.

Average temperatures and departures from the normal.

Districts.	Num- ber of sta- tions.	Average tempera- tures for the current month.	Departures for the current month.	Accumu- lated de- partures since Jan. 1.	Average depar- tures since Jan. 1.
New England	12	53.1	-1.5	+14.6	+2.5
Middle Atlantic		61.8	+0.3	+19.9	+4.0
South Atlantic	10	70.8	+1.0	+15.4	+3.
Florida Península 1		75.0	-1.2	+11.2	+2.5
East Gulf		72.1	-0.1	+ 5.2	+1.6
West Gulf		72.3	-0.6	- 5.0	-1.6
Ohio Valley and Tennessee		65.1	0.0	+ 7.3	+1.5
Lower Lakes		56.2	-1.3	+ 9.1	+1.3
Upper Lakes		51.7	-1.1	- 0.6	-0.
North Dakota 1		51.1	-2.3	- 3.3	-0.
Upper Mississippi Valley	14	61.4	-0.4	+ 2.2	+0.
Missouri Valley	12	61.7	-0.2	+ 2.8	+0.
Northern slope	9	52.7	-0.3	- 9.0	-1.1
Middle slope	6	65.0	+2.2	- 3.5	-0.
Southern slope 1	8	71.2	+1.7	- 6.4	-1.
Southern Plateau 1		66.4	-0.6	-14.5	-2.
Middle Plateau 1		56.8	+1.6	- 6.0	-1.
Northern Plateau 1		55. 4	+0.6	-11.4	-2.
North Pacific	7	53.1	0.0	- 5.2	-1.
Middle Pacific	7	58.5	+0.9	- 3.1	-0.
South Pacific	4	61.7	-0.1	+ 2.2	+0.

¹ Regular Weather Bureau and selected cooperative stations.

Average precipitation and departures from the normal,

Districts.	Number of stations.	Average.		Departure.	
		Current month.	Percentage of normal.	Current month.	Accu- mulated since Jan. 1.
New England	11	2.76	82	-0.60	-0.30
Middle Atlantic	15	3, 83	108	+0.30	-0.20
South Atlantic	11	2, 29	60	-1.50	-0.70
Florida Peninsula 1	9	3, 26	80	-0.80	+1.30
East Gulf	11	3, 38	97	-0.10	+1.70
West Gulf	10	2, 93	71	-1.20	-1.00
Ohio Valley and Tennessee	14	3.15	80	-0.80	+4.30
Lower Lakes	10	3, 60	112	+0.40	+5, 20
Upper Lakes	14	3.07	88	-0.40	+0.30
North Dakota 1	9	1.40	54	-1.20	-2,60
Upper Mississippi Valley	15	3, 76	90	-0.40	+0.60
Missouri Valley	12	4.11	98	-0.10	+0.20
Northern slope	7	2, 25	96	-0.10	-0.10
Middle slope	6	2.41	63	-1.40	-2.10
Southern slope 1	8	2.69	71	-1.10	-2.20
Southern Plateau 1	9	0.07	19	-0.30	-0.40
Middle Plateau 1	11	0.62	51	-0.60	-2.10
Northern Plateau 1	10	1.27	76	-0.40	-1.10
North Pacific	7	2.10	81	-0.50	-6.40
Middle Pacific	8	0.94	76	-0.30	-7.80
South Pacific	4	0.18	31	-0.40	-2.50

1 Regular Weather Bureau and selected cooperative stations.

Average relative humidity and departure from the normal.

Districts.	Average.	Depar- ture from the normal.	Districts.	Average.	Departure from the normal.
New England	70	-8	Missouri Valley	69	+
Middle Atlantic	66	-6	Northern slope	65	+7
South Atlantic	69	-5	Middle slope		
Florida Peninsula	73	-3	Southern slope	52	-1
East Gulf	70	-1	Southern Plateau	32	(
West Gulf	72	-3	Middle Plateau	42	-
Ohio Valley and		1.1	Northern Plateau	56	
Tennessee		4	North Pacific	77	(
Lower Lakes	68	-3	Middle Pacific	67	+1
Upper Lakes	71	1	South Pacific	69	
North Dakota U p p e r Mississippi	66	+4			
Valley	67	-1			

Average cloudiness and departure from the normal.

Districts.	Average,	Departure from the normal.	Districts.	Average.	Depar- ture from the normal.	
New England	5.8	+0.3	Missouri Valley	5. 5	+0.4	
Middle Atlantic	5.0	0.0	Northern slope		+0.4	
South Atlantic	4.3	-0.2	Middle slope	4.4	-0.5	
Florida Peninsula		0.0	Southern slope	3.2	-1.2	
East Gulf	4.2	-0.5	Southern Plateau	2.2	-0. 5	
West Gulf Ohio Valley and	3, 4	-1.4	Middle Plateau Northern Plateau	4. 2 6. 1	+0.1	
Tennessee	5. 2	+0.2	North Pacific	6. 2	-0.1	
Lower Lakes	5, 2	-0.2	Middle Pacific	3.5	-0.5	
Upper Lakes	5, 8	-0.3	South Pacific	3.8	+0.3	
North Dakota U p p e r Mississippi	4.3	-1.2				
Valley	6, 0	+0.7				

Maximum wind velocity.

Stations.	Date.	Ve- loc- ity.	Direc- tion.	Stations.	Date.	Ve- loc- ity.	Direc tion.
Atlanta, Ga Fort Smith, Ark	31 14	60 50	nw. sw.	Point Reyes Light,	1 12	57 66	nw nw.
Mount Tamalpais, Cal Do	12 13	64 60	nw nw.	Do Do Do	13 23	60 54	nw.
Do	14 15	53 60	nw.	Do	24 27	53 58	nw.
Do Do	16 17 27	52 54	nw. nw.	St. Paul, Minn Sioux City, Iowa	28 1 13	72 52 52	nw sw.
New York, N. Y Norfolk, Va	10 30	54 62	nw.	Toledo, Ohio Williston, N. Dak	21 11	50 52	sw. nw.

RIVERS AND FLOODS, MAY, 1913.

By Alfred J. Henry, Professor in Charge River and Flood Division.

The flood in the lower Mississippi which was in progress during the early part of May crested at New Orleans on the 8th at 20.5 feet, 2.3 feet above flood stage; it then receded slowly and passed below the flood stage, 18 feet, on the 24th, having been in flood for a period of 37 days. It is expected to present further details of this flood in a special paper to be issued as soon as the necessary statistics can be collected.

Elsewhere the rivers were at moderate to low stages, and very few of the rises which occurred attained the rank of a serious flood. The Illinois River was at flood stage on its upper reaches; the Black Warrior and Tombigbee Rivers of Alabama, the Pearl and Pascagoula Rivers of Mississippi, the James River of Virginia, and the Roanoke of North Carolina reached near or slightly above flood stages at various times during the month due to heavy local rains.

Hydrographs for typical points on several principal rivers are shown on Chart I. The stations selected for charting are Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock on the Arkansas; and Shreveport, on the Red.

Losses due to April, 1913, floods in the South Atlantic and East Gulf States, District No. 2.

		Losses.				
State.	River system.	Item 1, general	Item 2.		Item 3,	
		loss, bridges, etc.	Crops.	Live stock.	suspen- sion of business.	
Virginia South Carolina	James	\$50			\$4,000 4,000	
North Carolina Mississippi	Roanoke Pearl, Pascagoula	12,600	\$2,300	\$2,600	2,000 8,000	
Total		12,650	2,300	2,600	18,000	

SPECIAL PAPERS ON GENERAL METEOROLOGY.

RECENT ADDITIONS TO THE WEATHER BUREAU LIRRARY.

C. FITZHUGH TALMAN, Junior Professor in Charge of Library.

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies.

American climatological association.
Transactions, v. 28, 1911–12.
Philadelphia. 1912. xxxiv, 347 p. 8°.

Australia. Commonwealth bureau of meteorology.

Results of meteorological observations made in western Australia during 1908. Perth. 1912. 130 p. 4 maps. 4°.

Belgium. Observatoire royal.

Annuaire météorologique, 1913. Bruxelles. 1912. vi, 325 p.

Bendel, Johann.

Wetterpropheten. 2. Aufl. Regensburg. 1913. vii, 140 p. 12°. (Naturwissenschaftliche Jugend- und Volksbibliothek. 7. Bändchen.)

Capelle, Wilhelm.

Zur met orologischen Literatur der Griechen. Hamburg. 1912.

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RECENT PAPERS BEARING ON METEOROLOGY.

C. FITZHUGH TALMAN, Junior Professor in Charge of Library.

The subjoined titles have been selected from the contents of the periodicals and serials recently received in the Library of the Weather Bureau. The titles selected are of papers and other communications bearing on meteorology and cognate branches of science. This is not a complete index of the meteorological contents of all the journals from which it has been compiled. It shows only the articles that appear to the compiler likely to be of particular interest in connection with the work of the Weather Bureau.

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- p. 237-238.

 Simpson, George C. Bemerkungen zur Gewittertheorie. p. 238-240.

 Ficker, H[einrich] v. Wirbelbildung bei Ballonfahrten im Gebirge. p. 243-245.

 Wiedemann, Eilhard. Über die Fata Morgana nach arabischen Quellen. p. 246-248. [The article relates to ordinary inferior and superior mirage, rather than Fata Morgana.]

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 Mitteilungen aus den deutschen Schutzgebieten. Berlin. 26. Band. 1. Heft. 1913.

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 - 116-117.

CONDENSED CLIMATOLOGICAL SUMMARY.

In the following table are given for the various sections of the climatological service of the Weather Bureau, the average temperature and rainfall, the stations reporting the highest and lowest temperatures with dates of occurrence, the stations reporting the greatest and least monthly precipitation, and other data, as indicated by the several headings.

The mean temperature for each section, the highest

and lowest temperatures, the average precipitation, and the greatest and least monthly amounts are found by using all trustworthy records available.

The mean departures from normal temperatures and precipitation are based only on records from stations that have 10 or more years of observations. Of course the number of such records is smaller than the total number of stations.

CONDENSED CLIMATOLOGICAL SUMMARY OF TEMPERATURE AND PRECIPITATION BY SECTIONS, MAY, 1913.

			Tempe	eratui	e (°F.	.).					Precipitation (inche	s and l	nundredths).	
Section.	average.	from tal.		Mon	thly e	xtremes.			average.	from tal.	Greatest monthly	7.	Least monthly.	
*	Section av	Departure from the normal.	Station.	Highest.	Date.	Station.	Lowest.	Date.	Section av	Departure from the normal.	Station.	Amount.	Station.	Amount.
labamarizona	69.3	+0.1 -1.5 $+0.1$ $+0.2$	3 stations Maricopa 2 stations	98 107 99 120	31 23 31 25	Riverton Flagstaff Dutton	41 15 35 12	1 2 7†	3.14 0.05 3.32	-0.90 -0.20 -2.07	Scottsboro Vail	7.86 0.60 6.55	Fort Deposit	0.
alifornia olorado lorida eorgia	54.2	+0.2 +2.4 -1.3 +0.1	Greenland Ranch Lamar	99 100 102	29 30† 30†	Summit	10 47 40	1 4 1	1.04 0.88 3.08 2.27	-0.18 -0.94 -0.96 -1.20	Blue Canon	4. 19 3. 70 9. 34 4. 70	21 stations 4 stations St. Cloud Eastman.	0 0
awaii [April] laho linois	69.6 55.4 62.9	+1.6 +0.2	Glenns Ferry Equality	88 99 99	6† 26 30	Humuula	29 13 28	17 3 10†	7.05 1.52 3.04	-0.03 -0.96	Keanae Valley	31.07 3.32 8.32	2 stationsdo	0.7
waansas	59.3 66.7	+0.6 -0.8 $+2.8$ $+0.6$	2 stations Onawa Lincoln Hopkinsville.	97 102 107 99	30 29 29 31	2 stations	26 30 32 29	11 2† 15 11	2.79 6.21 3.04 2.95	$ \begin{array}{r} -1.41 \\ +1.71 \\ -0.81 \\ -1.03 \end{array} $	Collegeville Britt Emporia Mount Sterling.	6. 67 10. 25 7. 45 5. 85	Mount Vernon Lamoni	3 0
entucky ouisiana aryland & Delaware. ichigan	72.6	-1.2 0.0 -0.3	Reserve	103 94 94	28 4† 2	Laark Deer Park, Md 2 stations	36 16 16	23 12 7†	4.95 4.30 2.80	$ \begin{array}{r} -1.03 \\ +0.62 \\ +0.69 \\ -0.52 \end{array} $	Hammond Westernport, Md	10.10 7.94 6.25	Blandville	
innesotassissippiissouri	70.9 65.8	-1.8 -1.3 $+1.3$	2 stations Corinth Caruthersville	99 98 101	27 31 31	Pokegama Falls Crystal Springs 2 stations	19 43 33	9 24 7†	3.53 4.01 3.05	+0.27 -0.26 -1.93	Winona Laurel Sublett	5. 98 9. 75 9. 12	2 stations Vicksburg St. Charles	
ontana braska ovada ow England	59.8 57.1	$ \begin{array}{r} -1.1 \\ +0.6 \\ +2.6 \\ -1.9 \end{array} $	Forsyth	96 103 100 92	27 29 24† 3	Curly Tecoma Patten, Me.	10 20 5 18	1 3 2 15	1.84 3.60 1.28 3.32	$ \begin{array}{r} -0.75 \\ +0.20 \\ +0.34 \\ -0.27 \end{array} $	Busby	3.06 9.05 3.40 4.94	Libby	
w Jerseyw Mexicow York	60.3 60.9 54.7	0.0 +0.8 -1.4	Indian Mills	94 105 93 98	6 26 2†	Layton Elizabethtown 2 stations	25 10 17	12 9† 12†	3.45 0.33 3.08	-0.46 -0.55 -0.45	Moorestown Tucumcari (2) Morehouseville	4.86 1.96 5.36	Paterson	
rth Carolina rth Dakota dodahoma	51.2 60.3	+0.5 -1.9 -0.6 +2.8	Parkersburg 2 stations Syracuse Jefferson	98 100 95 104	27 4 29	Banners Elk Bottineau 3 stations Woodward	23 11 23 30	11 5 11†	4.37 1.68 3.53 3.50	+0.30 -0.89 -0.12 -2.17	Brewers	8. 72 4. 00 7. 94 8. 41	Ramseur	
egon nnsylvania rto Rico	54.4 58.5 75.0	+0.7 -1.3 -2.0	Huntington2 stationsdo	97 93 92	31 5 25†	Cliff (2) Warren	10 21 50	1 11 1†	1.77 3.86 8.20	-0.41 -0.10 $+0.72$	Cascadia	4. 66 6. 45 18. 13	Huntington Forks of Neshaminy. Guanica Centrale	
nth Carolinath Dakota nnessee	54.4 67.6	+0.3 -0.9 +0.7 +0.4	Winner Union City Big Spring	101 102 100 105	30† 28 31 26	Dillon	38 18 26 33	11 3 11 4	2.13 3.48 3.93 2.55	$ \begin{array}{r} -1.39 \\ +0.94 \\ -0.32 \\ -1.20 \end{array} $	Winthrop College Tyndall Rogersville Arthur City	6. 65 6. 51 7. 20 9. 41	Charleston Orman Union City 4 stations	
ah. ginia shington st Virginia	64. 2 54. 6	+1.4 +0.2 -0.3 -0.9	MidvaleCallavilleHanfordMartinsburg.	107 94 98 95	26 3 31 3†	Woodruff Burkes Garden Republic Bayard.	6 24 21 19	12 1 1 12	0.48 5.48 1.99 5.16	-0.86 $+1.44$ -0.30 $+1.26$	Brigham City Ruckersville Quiniault Brandonville	1. 87 8. 29 8. 03 8. 86	8 stations	
isconsinyoming	53.5	-0.9 -1.1 $+1.8$	Prairie du Chien 2 stations	91 94	28 26	Long Lake	17	10 13	5. 50 1. 62	+1.26 $+1.99$ -0.77	Shullsburg Knowles	8.77 4.60	Trout Lake Encampment	

† Other dates also.

TABLE I .- Climatological data for United States Weather Bureau stations, May, 1913.

		vat				ressure		Ter	npers	ture	of t	he s	air, i	n d	egre	es		of the	y, per		cipitatio	n,	.,		Vind.		U prin	17/19/1			tenths.		o pue
Districts and stations.	above sea	rabove	above		need to	reduced to	m nor-	mean 2.	m nor-			um.			ım.	daily	5	dew point.	ve humidit cent.		1 2	0.01, or	movement,	rection.		x i m			days.		- 1		ground at e
DBII	Barometer ah		Anemometer	ground.	Station, reduced t mean of 24 hours.	Sea level, redi	Departure from normal.	Mean max. +	Departure from mal.	Maximum.	Date.	Mean maximum.	Minimum	Date	Mean minimum.	Greatest or	Mean wet the	Mean tempe	Mean relative humidity, cent.	Total.	ture fr mal.	Days with o	Total mov-	Prevailing direction	Miles per hour.	Direction.	Date.	Clear days.	Partly cloudy	Cloudy days.	Average cloudiness	snov	Snow on gro
New England.								53. 1	— 1 .	5									70	2.77	- 0.6										5.8		
Eastport. Greenville. Portland, Me. Concord. Burlington. Northfield. Boston. Nantucket. Block Island Narragansett. Providence. Hartford. New Haven.	1,07 10 28 40 87 12 1	0 3 8 4 6 5 1 2 6 0 1 9	6 82 1 70 11 12 15 1 14 11 9 41 1 22 1	117 79 48 60 188 90 46 165 140 155	28. 79 29. 88 29. 67 29. 56 29. 85 29. 97 29. 95 29. 82 29. 82	29. 97 30. 00 29. 99 30. 00 29. 99 29. 98 29. 98 29. 98	0 + .03 0 + .03 0 + .01	47. 6 50. 0 53. 2 52. 4 49. 4 55. 2 52. 8 53. 8 53. 6 55. 2 57. 6	- 3. - 2. - 1. - 4. - 1. - 0. + 0. - 1. - 3. + 0. + 0.	5 72 5 88 5 84 1 82 4 78 2 74 9 80 1 80 3 86 1 90 2 90	6 6 31 31 3 3 3 3 3 3 3 3 3	58 57 65 62 61 63 59 62 64 67	28 37 29 28 21 37 39 39 31	10 17 12 15 15 11 11 11	37 43 42 43 38 48 46 48 46	28 43 23 49 38 45 30 24 30 34 38 38 38	44 45 49 48 50	38 40 43 45 46	68 39 80 79 66 62 60	3. 01 2. 92 3. 13 2. 56 3. 01 3. 22 1. 71 1. 65 2. 73 1. 84	$ \begin{bmatrix} 2 - 0.8 \\ 7 - 0.1 \\ 3 - 0.3 \\ 4 + 0.2 \\ 2 - 0.3 \\ - 1.0 \\ 5 - 2.1 \\ - 1.6 \\ 4 + 0.4 $	12 10 11 11 12 8 7 9	4,336 7,288 5,822 7,255 10,532 11,967 6,717 5,218	nw. nw. s. s. nw. sw. sw. se. nw. nw.	34 25 35 26 34 43 44 	s. n. nw. sw.	30 29 29 18 11 29 24 10 29 29	11 11	11 8 12 11 6	13 10 12 18 9 9 13 10	5.8 5.6 6.0 7.0 5.6 5.4 5.7		
Middle Atlantic States. Albany Binghamton New York Harrisburg Philadelphia Reading Scranton Atlantic City Cape May Trenton Baltimore Washington Lynchburg Mount Weather Norfolk Richmond Wytheville South Atlantic States.	87 31 37 11 32 80 5 1 19 12 11 68 1,72	1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	78 14 4 4 4 4 4 4 4 4	88 454 104 184 98 119 48 49 183 113 85 88 75 205 52	29, 89 29, 10 29, 66 29, 63 29, 89 29, 16 29, 90 29, 89 29, 89 29, 28 29, 28 29, 28 29, 27, 70	30. 03 30. 00 30. 02 30. 02 30. 02 30. 01 30. 03 30. 00 30. 01 30. 02 30. 01 30. 03 30. 00 30. 03 30. 00 30. 03	+ .04 + .03 + .04 + .03 + .01 + .01	57. 4 54. 6 60. 2 61. 5 63. 6 61. 0 57. 6 60. 4 61. 3 60. 8 64. 9 64. 4 66. 0 59. 8 67. 6 66. 6 60. 9	- 2. + 0. - 0. + 1. - 1. + 2. + 2. + 0. + 0. + 0.	5 88 4 88 9 88 2 88 4 90 2 90 9 88 7 87 . 90 7 91 2 90 1 92 3 4 92 5 86	4 3 3 3 4 4 4 4 4 4 4 6 3	65 68 72 73 72 68 68 69 71 74 75 79 68	41 34 40 37 37 31 44	12 11 11 11 12 11 11 11 11 12 12	44 52 52 54 50 48 52 54 51 55 53 51 58 55	35 39 30 33 31 36 35 31 32 36 43 26 33 40 42	51 53 54 53 51 54 56 54 56 56 56 59 51 59	43 46 48 47 44 50 53 49 50 55 45 51 50	59 62 62 65 63 72 79 71 60 64 73 64 67 64	3. 29 3. 14 2. 51 2. 73 4. 63 2. 85 2. 27 3. 52 3. 34 4. 56 4. 76 4. 63 4. 80	0.0 - 0.7 - 0.9 + 1.4 - 1.2 2 + 0.5 + 0.4 0.4 + 0.7 3 + 0.8 2 + 0.9 + 0.2 5 + 1.0 + 2.0	12 9 9 9 9 9 11 8 11 12 12 8 11	12,083 4,464 7,696 5,320 5,031 6,161 6,555 8,380 5,408 4,630 2,236 10,669 9,117	nw.	24 54 22 33 29 27 26 28 34 27 24 19 39 62 37	nw. nw. n, n. w. ne. nw. nw. n. nw. sw. nw.	10 10 10 13 10 10 19 18 16 29 10 29 16 13 30 16 30	14 4 11 10 11 11 7 12 13 15 14 11 12 10 15 15 15 15 15	11 7 6 8 6 12 9 13 6 8	10 3 7	5.1 6.7 5.5 5.5 5.3 5.7 5.8 4.7 4.2 4.6 4.5 5.6		
Asheville Charlotte Hatteras Manteo Raleigh Wilmington Charleston Columbia, S. C Augusta Savannah Jacksonville	77 1 1 37 7 4 35 18 6	3 6 1 1 2 1 6 16 8 8 8 1 1 4 0 8 5 18	38 12 12 13 13 11 11 11 11 189 150 1	76 50 46 110 91 92 57 97	27. 73 29. 21 29. 98 29. 62 29. 62 29. 66 29. 66 29. 98 30. 00	30. 03 29. 99 30. 02 30. 04 30. 05 30. 04 30. 03 30. 05	+ .05 + .04 02 + .03 + .03 + .04 + .04 + .04 + .05 + .05	63. 2 69. 9 69. 0 67. 0 69. 8 70. 4 72. 6 72. 6 72. 6	+ 0. + 1. + 1. + 1. + 1. + 0. + 0.	6 86 5 91 9 82 88 7 94 3 92 2 98 8 95 4 97	5 3 6 4 30 30 30 31	75 76 80 80 80 84 84 83	44 46 34 41 45 55 51 50 56	11 12 12 12 11 11 11 12 1	59 63 58 59 61 65 61	39 30 20 31 27 34 37 28 28	55 60 64 63 65 61 63 65 66	50 54 61 53 60 61 54 57 61 63	68 63 78 61 77 72 59 64 75	5.12	2 + 1.3 7 - 0.2 3 - 1.1 2 - 0.8 6 - 2.0 6 - 1.1 6 - 3.3 7 - 2.2 7 - 2.5 7 - 1.7	12 11 9 9 11 7 3 6 9 8 5	4, 839 9, 959 5, 728 5, 732 7, 759 5, 291 4, 481	sw. sw. sw. sw. sw. s. sw.	33 38 38 28 29 30 33 32	n. nw. s. ne. sw. ne. nw.	30 21 10 27 23 11 23 19 31 10	13 15 15 14 11 13 19 10 10 18	9 12 10 10 14 14 7	6 4 5 7	4.9 4.7 3.9 4.4 4.4 3.8 3.8 4.8		
Florida Peninsula, Key West	2 2 3	5 7	17 19 19	72 72 96	29, 99 30, 02 29, 97 30, 00 30, 00	30. 05 30. 00 30. 04	+ .04 + .63 + .05	77. 8 76. 0 76. 6 75. 2 73. 8	- 0. - 2.	2 86 6 88 . 84 3 89 1 93	28 29 21	82 79 85	67 60 68 59 58	14	72 70 74 66 64	15 25 13 27 29	70 69 71 67	67 66 68 63	72 76 70	3. 46 8. 42 2. 47 1. 49 1. 66	+ 2.0	8 6 4 3 7	9, 180	se. se. e. ne. e.	26 30 27	ne.	24 11 3 8	18 7 15 19 14	8	5	3.3		
East Gulf States. Atlanta. Macon. Phomasville Pensacola. Anniston. Sirmingham. Mobile. Montgomery. Meridian. Vicksburg. New Orleans.	37 27 5 74 70 5 22 37 24	0 7 3 16 1 14 1 0 1 7 9 3 16 5 8 7 6	78 8 10 10 11 10 10 13 13 12	87 57 182 57 48 106 112 93 74	28. 82 29. 63 29. 74 29. 98 29. 28 29. 30 29. 97 29. 80 29. 64 29. 77 29. 97	30. 02 30. 03 30. 04 30. 06 30. 06	+ .05 + .03 + .04 + .05 + .07 + .08 + .04 + .06 + .05	70. 8 72. 0 73. 3 72. 8 69. 8 70. 6 73. 7 73. 4 70. 4 71. 8 74. 8	+ 0. - 0. - 2. + 1. - 1. + 0. - 0. - 1. + 0.	3 92 9 98 7 98 0 87 4 93 0 90 1 94 1 94 7 91 1 90 3 89	31 31 31 31 31	84 86 79 82 81 82	51 53 52 55 48 48 55 54 50 54 57	3 2 24 1 24 24 24	60 60 66 57 60	29 33 38 21 36 30 24 30 35 24 22	60 63 64 67 62 66 63 63 64 67	53 58 60 64 57 62 58 59 60 64	65 72 77 77 67 73 66 71 72 75	3. 62 0. 67 2. 87 2. 96 4. 48 1. 59 2. 38 7. 24 1. 30 7. 94	- 0.1 + 0.5 - 2.2 - 1.1 - 0.6 - 0.1 + 1.4 - 2.4 - 1.4 + 3.3 - 3.0 + 4.1	9 6 8 6 7 11 7 5 8 7	4, 182 3, 434 9, 085 3, 589 4, 117 5, 718 4, 269	s. se. sw. sw. se.	60 38 25 37 23 28 24 35 25 30 32	n. se. sw. s. ne. w. ne. sw. nw.	31 31 17 22 16 31 10 31 16 21 22	13 15 14 17 12 13 14 13 12 16 13	10 11 7 13 10 14 15 10 7	7	4.1 4.0 3.7 4.3 4.6 3.6 3.9 5.2 4.2 4.3		
West Gulf States. Shreveport. Sentonville Fort Smith Little Rock. Brownsville Lorpus Christi Fort Worth Alveston. Houston Palestine Jan Antonio. Faylor.	45 35 5 2 67 5 13 51 70	3 1 7 7 7 13 7 0 6 0 10 4 10 8 11 0 6 1 8	11 79 89 14 39 66 11 11 11 11	77 114 121 72 91	29. 75 28. 63 29. 50 29. 64 29. 23 29. 96 29. 96 29. 86 29. 47 29. 23 29. 39	29. 98 29. 97 30. 01 29. 98 29. 93 30. 02 30. 00 30. 00	+ .06 + .05 + .04 + .06 + .02 + .08 + .02 + .08 + .07 + .05 + .09	72. 0 66. 9 70. 4 70. 0 74. 7 74. 4 73. 6 74. 0 73. 8 72. 1	+ 0. - 0. - 2. + 0. - 1. - 1. - 0.	2 91 5 91 7 95 4 91 89 1 82 4 97 4 83 7 91 4 89	31 31 31 22 28 31 31	81 79 84 79 85 78 83 82 87	54 41 49 52 55 63 52 60 56 54 56	7 7 7 8 8 7 5 6 24 7	56 60 61 65 70 62 70 65	36 32 29 26 32 15 33 16 26 27 33 33	65 62 64 69 62 68 65 65	61 57 61 67 55 65 61 60	67 76 81 58 78	3. 11 2. 86 2. 99 2. 34 1. 12 0. 76 2. 74 3. 87 3. 56 2. 83 2. 88	- 1.2 - 1.0 - 2.4 - 1.9 - 2.8 - 2.0 - 1.4 + 0.6 - 2.1 - 0.1 + 0.9	10 6 3	4,357 5,692 6,146 11,588 8,710 9,154 6,619 5,679 4,769	s. e. s. se. s. se. se. s. se. se.	50 38 32 43 38 33 33 27 37	s. sw. nw. se. se. ne.	19 4 14 17 4 4 2 16 3 3 3 15	19 15 14 18 13 15 22 17 22 20 14	11 8 7	5 6	4.5		

Table I.—Climatological data for United States Weather Bureau stations, May, 1913—Continued.

3.000	Ele					essure nches		Ter	mperat	ure Fa	of t	he s	ir, ii	a de	gree	88	. 1	of the	ty, per		pitati	on,		1	Wind.						tenths.		jo pue
Districts and stations.	above sea	rabove	above	-	reduced to f 24 hours.	reduced to	om nor-	+ mean	om nor-			um.			um.	daily		dew point.	e humidi ent.		om nor-	0.01, or	ement,	rection.		x i m elocit			days.			-1	ground at en
	Barometer a level, fe	Thermometers	Anemometer	ground	Station, red mean of 24	Sea level, red mean of 24	Departure from nor- mal.	Mean max	Departure from nor- mal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Mean minimum.	Greatest Crange.	Mean wet th	Mean temp dew	Mean relativ	Total.	ture fi	Days with (Total movement, miles.	Prevailing direction.	Miles per hour.	Direction.	Date.	Clear days.	Partly cloudy	Cloudy days.	Average cloudiness,	Total snowfall.	Snow on gro
Ohio Valley and Tenn.								65. 1	0.0										64	3. 15	- 0.8								-		5. 2		-
Chattanooga Knoxville Memphis Nashville Lexington Louisville Evansville Indianapolis Terra Haute Cincinnati Columbus Dayton Pittsburgh Elkins Parkersburg	540 987 521 431 822 574 628 824 896 846	6 16 16 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	13 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	97 91 02 55 82 64 29 60 22 16 10 50	29. 00 29. 63 29. 48 29. 00 29. 47 29. 56 29. 16 29. 40 29. 38 29. 18 29. 08 29. 14 28. 02	30. 04 30. 05 30. 06 30. 05 30. 05 30. 05 30. 05 30. 05 30. 05 30. 05 30. 05 30. 05 30. 05 30. 05	+ .06	6 67. 8 6 70. 0 8 68. 8 6 64. 9 7 67. 2 6 67. 6 6 65. 8 6 61. 7 6 62. 8 6 63. 4	0 + 0.6 $2 + 0.5$ $3 + 0.5$ $4 + 0.5$ $4 + 0.7$ $4 + 0.7$ $4 + 0.7$ $4 + 0.7$ $4 + 0.7$ $4 + 0.7$ $4 + 0.7$ $4 + 0.7$ $4 + 0.7$ $4 + 0.7$ $4 + 0.7$	89 91 92 87 93 94 87 92 91 86 87 88 88 90	30 31 30 30 30 30 30 30 30 30	79 78 79 75 77 77 74 76 76 76	44 51 48 35 40 42 38 37 38 34 34	12 11 11 11 10 10 10 11 11 11	58 55 57 58 53 54 56 51 53 51 45	34 35 25 33 32 30 31 35 38 33 30 32 33 45 38	60 63 59 56 58 54 56 57 54 54 52 52 52	54 54 60 54 49 52 47 49 51 49 48 45 47 51	68 63 62 71 70	2. 97 2. 66 4. 32 1. 07 0. 59 1. 49 2. 30 2. 60 3. 41 5. 63 4. 80	+ 1.2 - 1.4 - 0.8 + 0.8 - 2.6 - 2.8 - 2.4 - 1.2 - 1.1 - 0.5 - 1.6 + 1.3	10 5 9 9 6 9 6 8 9 8 13	3, 602 5, 634 6, 225 6, 544 8, 234 5, 732 7, 312 4, 441 7, 337 7, 004 7, 179	sw. sw. ne. sw. n. s. sw. sw. nw. s. nw.		Se. SW. S. SW. SW. SW. SW. SW. SW. SW. SW.	16 31 5 20 15 15 20 15 15 15 15 15 15 15 15 15 15 15 15 15	11 12 8 8 8 9 13 9	12 5 13 12 10 11 13 11 14 3 14 10	7 9 8 9 12 10 12 8 15 8 12	5. 4 4. 6 5. 2 5. 0 5. 0 5. 1 5. 8 5. 6 4. 7 5. 5 5. 1 5. 6	*****	
Lower Lake Region. Buffalo	33	8 1 5 2 3 8 7 9 4 9 2 19 9 6 8 20 6 11	0 6 6 107 1 102 1 100 2 12 108 2 13 1	61 91 02 13 02 01 70 46 24	29. 54 29. 64 29. 47 29. 39 29. 27 29. 23 29. 37 29. 37 29. 12	30, 01 30, 02 30, 04 30, 03 30, 04 30, 05 30, 05 30, 05	+ .05 + .05 + .05 + .06 + .06 + .07 + .08	52. 8 51. 9 7 56. 0 5 55. 8 5 57. 8 5 58. 6 5 58. 8 5 59. 9 5 7. 4	7 — 0.8 8 — 3.4 9 — 2.8 9 — 0.7 9 — 2.3 8 — 1.5 8 — 0.7 8 — 0.6 9 — 0.3 1 — 0.5	8 76 87 88 88 88 88 86 86 86 86 86 86 86 88 84 84	4 5 5 4 5 5 5 2 2	63 60 65 64 63 65 67 68 70	33 34 32 36 37 37 32 33	15 10 10 11 10 12 11 10 10	43 44 47 47 48 51 50 50 49	26 34 30 30 31 30 28 33 34 33	49 47 48 48 50 51 52 52 53 51	46 42 41 42 45 46 46 49 45	70 62 65 70 64 68 67 72 68	2. 48 2. 64 3. 37 2. 60 2. 79 2. 68 2. 84 4. 69 7. 39 3. 77	$\begin{array}{r} -0.2 \\ +0.5 \\ -0.3 \\ -0.6 \\ -0.8 \\ -0.4 \\ +1.4 \\ +4.1 \end{array}$	12 10 8 8 14 10 11 10 9	6,393 7,723 6,168 8,573	SW. W. W. NW. N. SW. SW.	25 50 37	sw. w. nw. nw.	13 6 19 13 18 14 27 15 21 15	9 7 6 12 12	10 9 11 9 16 14 12	11 10 10 10 6 10 13 8 8	4.8 5.2 5.3 4.8 5.1 5.9 4.8 4.4		
Upper Lake Region. Alpena Escanaba Grand Haven. Grand Rapids. Houghton. Lansing. Ludingtom. Marquette. Port Huron. Saginaw Sault Sainte Marie. Chicago. Green Bay. Milwaukee. Duluth.	82 617 68	2	64 64 70 62 11 90 17 11 10 10 10 10 10 10 10 10 10 10 10 10	60 92 87 72 62 66 11 20 64 61 10 44 33	29. 38 29. 37 29. 35 29. 27 29. 29 29. 09 29. 33 29. 35 29. 36 29. 36 29. 15 29. 29 29. 28 29. 38	30. 04 30. 03 30. 04 30. 02 30. 04 30. 06 30. 04 30. 06 30. 04 30. 06 30. 06		51. 0 47. 4 52. 5 56. 2 50. 0 47. 6 54. 2 56. 4 47. 4 57. 6 53. 4 54. 2 46. 2	- 1.6 - 3.2 - 1.7 - 1.4 + 0.5 - 0.3 + 1.1 - 1.1 + 0.6 - 2.4	888 6776 83 81 83 73 87 82 85 82 85 82 83 81	28 2 1 2 2 1 3 2 1 1 2 1 2 1 2 1 2 1 2 2 1 2 1	55 60 68 56 67 58 56 63 67 58 65 62 62	29 30 28 27 30 29 31 29 28 38 31 34	9 10 10 25 10 10 7 10 10 11 10 10	40 44 47 37 45 42 39 45 46 37 50 45 46	39 26 28 33 35 27 43 36 31 41 29 33 35 35	46 43 48 50 50 46 42 48 49 42 51 48 48 48	41 38 43 45 42 36 44 44 37 46 45 42 36	77 69 72 66 71 68 76 70 73	3. 28 2. 13 1. 76 2. 88 2. 22 2. 93 2. 04 2. 89 1. 48 1. 85 4. 38 5. 49 5. 65 4. 82	$\begin{array}{c} -1.2 \\ -0.1 \\ -1.2 \\ -1.6 \\ -0.4 \\ -1.4 \\ -1.3 \\ -0.4 \\ -2.6 \\ -1.4 \\ +1.0 \\ +1.9 \\ +2.2 \\ +1.4 \end{array}$	12 9 9 12 14 13 13 12 10 11 11 16 12	3,925 6,732 4,436 7,711 7,051 7,417 4,778 6,699 9,998 8,426	S. W. W. e. SW. ne. SW. w. ne. SW. ne. S. ne.	31 33 24 32 24 34 39 29 26 33 44 43	nw. sw. s. sw. se.	15 14 4 5 18 3 4 1 15 3 12 14 3 14 12	7 13 10 6 11 10 8 8 10 8 11 4 13	10 7 8 12 7 10 7 16 10 11 9 10 6	14 11 13 13 13 11 16 7 11 12 11 17 12	6. 1 5. 0 5. 4 6. 3 5. 4 5. 4 5. 2 6. 2 5. 7 7. 5 5. 3 6. 8	T.	
North Dakota. Moorhead	940 1,674 1,482 1,872	2 1 4	8	57 44	29, 02 28, 25 28, 42 28, 00	30.04	+ .10	52. 2 52. 4 50. 2 51. 9	- 2.6 - 2.8 - 2.5 - 2.4	95 92 92 93	27 27	64 62	27 26	13	41 39	42 43 37 42	46 46 44 44	41 41 37 37	66 70 69 64 62 67	1.68 1.99 0.88 0.85	-0.5 -1.3	9 10 13	6, 112 7, 633 8, 059 6, 883	e. ne.	40 33	nw. nw. nw. nw.	31 31 28 11	8	9 9 8 15	15 15	4.5 6.6 6.1 6.9	T.	
Minneapolis St. Paul La Crosse Madison Charles City Davenport Des Moines Dubuque Keokuk Cairo La Salle Peoria Springfield, Ill Hannibal St. Louis	837 714 974 1, 013 606 861 698 614 356	4 14 77 15 11 88 88 88 88 88 88 88 88 88 88 88 88	1 2 1 0 0 0 1 4 1 4 7 6	36 48 78 49 79 97 96 78 93	29. 23 29. 98 28. 92 29. 35 29. 07 29. 28 29. 34 29. 64 29. 47	30. 00 30. 02 30. 00 30. 00 29. 98 30. 02 30. 00 30. 01	+ .06 + .06 + .05 + .05 + .07 + .06 + .05	55. 8 55. 9 57. 6 56. 5 60. 9 61. 3 59. 2 63. 4 68. 4 60. 7 62. 4 65. 0 64. 8 67. 3	- 2.3 - 1.9 - 1.0 - 3.0 - 0.6 - 0.3 - 1.6 + 0.2 + 0.9 - 0.1 + 0.7 + 1.5 + 0.4 + 0.8	89 88 88 88 88 96 88 96 96 90 93 93 93	27 28 1 29 29 29 29 28 31 31	67 66 66 70 70 68 73 77	37 33 35 35 41 37 36 49	9 10 6 11 11 10 11 10 11 10 7	47 47 48 48 47 51 52 50 54 60 50 51 54 54 58	35 36 35 29 38 31 34 33 32 29 34 34 34 36 29	50 52 54 54 52 57 59 55 56	43 45 48 49 49 47 53 53 50 49	65 70 75 69 69 68 71 62 68 59	2. 86 2. 95 5. 66 3. 5. 53 4. 89 5. 06 8. 20 3. 87 4. 45 1. 85 0. 96 1. 16 1. 53	- 1.1 - 0.7 + 1.8 + 3.0 + 0.5 + 0.5 - 2.4 - 3.5 - 3.8 - 2.7	14 15 14 15 13 16 16 13 13 4 12 12	6,373 6,172	nw. s. sw. nw. e. sw. s. s. sw. sw. s. sw. s. sw. s. sw. s. s. sw. sw	52 24 48 32 30 33 22 40 31 33 29 31	SW. SW. SW. W. SW.	4	8 2 4 7 7 7 5 11 10 10 11 9 13	12 14 12 5 11 11 12 9 11 8 8 11 7	11 15 15 19 13 13 14 11 10 13 12 11	6. 3 5. 8 7. 2 7. 1 7. 2 6. 1 6. 4 6. 9 5. 2 5. 5 5. 8 5. 2 5. 5 4. 9		
Missuuri Valley. Columbia, Mo. Kansas City. St. Joseph. St. Joseph. Springfield, Mc. Jola. Topeka. Lincoln. Omaha. Valentine. Sioux City. Huron. Pierre. Yankton.	963 967 1,324 984 983 1,189 1,105 2,598 1,135 1,306 1,572	16 1 9 1 1 8	1 1 1 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	81 49 04 50 01 .	28. 94 28. 93 28. 61 28. 93	29, 96 29, 96 30, 00 29, 95	+ .04 + .07 + .03	65.7 66.0 64.9 66.2 67.0 65.8	- 0.2 + 1.2 + 1.5	96 96 96 90 98 99	29 29 31 31 29	75 76 78 78	39 40 38 46 44 44 40 42 30 38 32 31 38	10 10 23 7 6 6 10 3 6 6 3	55 57 55 56 56 55 52 54 45 45 46 49	33 29 33 28 34 33 32 29 39 35 40 36 38	60 57 57 55 55 48 52 49 48	56 52 52 52 51 50 43 48 43 41	67 64	1. 43 4. 45 4. 73 2. 38 3. 35 4. 46 6. 02 5. 27 3. 13 4. 71 4. 53 3. 75	- 0.1 - 3.4 - 0.7 - 3.2 - 1.7 - 0.4 + 1.8 + 0.8 - 0.2 + 1.6 + 1.6 + 2.0	11 10 9 11 12 12 16 14 12 10	6, 168 8, 104 6, 291 8, 005 8, 009 6, 188	8. 8. 8. 8. 8. 8. ne. 8. nw.	38 35 28 36 42 33 38 54 38	w. w. s. s. s. mw. nw. e. ne.	13	9 11 21 14 13 5 4 12 7	16 10 7 14 13 13 10 8 10	6 10 3 5 13 17 11 14 13	5.1 5.1 2.6 3.7 4.0 6.4 7.0 5.3 6.3 6.5		

TABLE I .- Climatological data for United States Weather Bureau stations, May, 1913-Continued.

					inche				Fa	nrei	nhei	t.				7	, Y, 1	i	nches.	7		The s	Vind.					1	tenths	
istricts and stations.	above sea feet.	rabove	above	reduced to	reduced to	m nor-	+ mean	m nor-			nm.		1	daily	rmomete	dew point.	ve humidit		m nor-	0.01, or	ement,	rection.		xim			y days.			
	Barometer at level, fee	Thermometer above ground.	Anemometer ground.	Station, redu mean of 24 l	Sea level, red mean of 24 l	Departure from mal.	Mean max. +	Departure from nor- mal.	Maximum.	Date.	Mean maximum.	Minimum.	Date.	Greatest daily	Mean wet thermometer.	Mean tempe	Mean relative	Total.	mal.	Days with (Total movement, miles.	Prevailing direction.	Miles per hour.	Direction.	Date.	Clear days.	Partly cloudy	Cloudy days.	Average cloudiness,	Total snowfall
Northern Slope.							52.7	- 0.3									65	2. 25	- 0.1		178							100	5.9	
avreelenaalispelliles City	2,505 4,110	11 87			29.9 29.9	6 + .06 + .06	51.6 51.4		85 87	26	63 62	22	1	40 3	4 4	3 41	71 63	1.81 2.00	- 0.3 0.0		6,031 6,140	e. sw.	32 43	nw. sw.	16 27	9 2 10 10	12	10 16 10 4 15 14 8 11 15 8	7.3	T. 4.3
dispell	2,962	11 26	34	26.91	29.9	$6 + .00 \\ 0 + .00$	50.9	- 0.1 - 0.3	81	26 27	63 67	24 25 31 30 28 26 26 26 23 31	1	41 3 39 3 46 3 43 40 3 40 3 41 4 35 3	34 437 435 4437 442 4439 3310 5	3 30	65	0.92		12	3,783	W.	26 27	SW.	27 26 16	10	11	10	5.5	T. T.
pid Cityeyenne	3, 234	46	50	26.61	30.0	3 + 12	59 6	- 1.6	91	28	63 64 66 64 57 73	30	1 5 3 2 3 3 3 3 3	43 3	35 4	31 31 32 33 46	66	3. 24	$\begin{array}{c} + 0.3 \\ - 0.2 \\ - 1.7 \end{array}$	17	5, 231 6, 382 4, 327	n.	29	Se.	10	8	8	15	3.4	T. T.
eyenne	6,088 $5,372$	58 60		24.62	29.9	1 + .00	53.4	+ 1.0	81	27 28 27	66	28	3	40 3	37 4	2 3	67 52	1. 20	-0.2 -1.7	11	4,327	nw. w.	34 48	s. nw.	12 13 13 26	8 4 7 7 5	16	8	5.5	4.0
nder eridan llowstone Park	3,790	10	47	26, 10	29.9	8	52.4		87	27	64	26	3	41	12 4	3 4	69	1,52		13	4,745	nw.	36	88.	13	7	13	11	5.8	0.7
llowstone Park rth Platte	6,200 2.821	11		23.86	29.9	$\frac{5}{6} + .06$	46. 0 60. 0	-1.4 + 1.0	83 87 75 96	26 29	73	23	3	35 3	39 3 10 5	3		3.50	+ 0.9		5, 226 6, 342	sw.	38	s. n.	31	13	10	8	1.7	6. 9
	2,021		0.	21.00	20.0	1 .0.						01	-	*	0					**	0,012		1						. 4	
Middle Slope.							65. 0	+ 2.2									58	2.41	- 1.4									-		
nver	5, 291	129	172	24. 70	29.9	0 + .00	57.5	+ 0.8	91	29	70	34	2 4 6 15 23 7	45 3	38 4	3	53	1.68			5,772	SW.	32	ne.	21	15	9	7		T.
eblo neordia	1.398	42	86 50	25. 24 28. 47	29.9	$\frac{7}{2} + .0$	65. 8	+2.9 +2.1	91 102	29 29	77 77 80 78	30 41	6	48 54 554 557 558 558 558	10 4 33 5 36 5 33 5 32 6	7 34	43 67	1.43 5.70	-0.2 + 1.0	10	5,129	nw.		W. Se.	13 2 2 2 2	12 4 14	18 17	10	3.1	
lge City	2,509	11	51	27.34	29.9	0 + .0	3 67.3	+ 3.8	98	29	80	39	15	54	36 5 33 5	3 49	59	0.81	+1.0 -2.5	11	9, 181	se.	42	se.	2	14	12	51 4	. 3	
hita ahoma	1,358	139		28.50	29.9	1 .00	67.9	+2.0 + 1.3	100	29 31	78 80	46	23	57	33 5 32 6	5 5	61 67	0.97 3.88	- 4.0	8	11, 276 12, 030	S.	42	8.	2	21 16	6 10	5	3.0	
	1,214	10	*	20.00	20.0	7 .0				31	00	**	1	08	2 0	1 3				0	12,000	5.	30	0.		10				***
Southern Slope.							71.9	+ 1.3									52	1.70	1.2										3. 2	
lene	1,738	10				2 + .00	73.7	+ 1.8	98	26	86	51	7 15	62	36 6	5			+ 1.0	8	8,576	8.		Se.	18 19	16	8	7	3.8	
arillo	3,676	10	49 57	26, 23 28, 94	29.8	$9 + .00 \\ 1 + .00$	68.2	+ 3.9	94 97	29 26	82 90	44 55	15	55 65	39 5 36	5 4	55	1, 41 0, 64		7 5	8,576 9,355 6,994 4,672	8. Se.	34	sw.	19	26 22 15	8 16	1	2.8	
Riowell	3,566	8	57	26.30	29.8	4 + .00	68.6	- 0.8	97		86	38	5	51	19 5	3 4	45			2	4,672	8.	27	w.	31	15	16	0	3.5	
louthern Plateau.							65. 1	- 0.8									32	0. 10	- 0.2	1 1		1						1	2.2	
			100	00 10	000					00	00						10		100		0 000		200	_	97	22		1		
Pasota Fe	7,013	57	62	23, 25	29.8	$0 + .00 \\ 000$	2 71.8 1 58.6		95	26	86	47 36	4	58 3	38 4 33 4		19 32	T. 0.17	- 0.4 - 0.9	3	8,669 7,238	W. 8W.	37 36	W. SW.	27 8 1	16	8 15 5 4 1 9	0	3.7	T.
zstaff	6,907	8	57				. 49. 6	- 1.1	78	24 22	67	18	3	32	47			T.		0		SW.	42 26	SW.	1	24	5	2 -		
enix	1,108	76	81 58	28, 68	29.8	$\frac{2}{3} + \frac{0}{4}$	4 73.8 4 74.9	-1.6	100	26 11	89 93	46	3 2 2 2	58	39 5 43 5	3 3	3 26 40	0,00		0	4, 228 4, 372	8.	35	W.	28 28 18	24 30	1	0	0.2	•••
na ependence	3,910	11	42	25. 95	29.9	$\frac{3 + .0}{0 + .0}$	6 62.0	- 2.5	89	25		29	2	46	37 4	3	44	0.32		2	4,372 5,837	n.		nw.	18	18	9	4	3.5	
Middle Plateau.							58 0	+ 1.8			1				-		42	0. 69	- 0.5									1	1.2	
											_								1		* 000				000		10			
nonah	6,090	74 12	81	25. 44 24. 01	29.9 29.8	6 .00	56. 6	+ 2.9	86 81	25 24	70 68	27 22	1 1	42 45	39 4 34 4	9 2	54 37	1.00				w. nw.	39	s. nw.	26 12	16	12	5	3.9	T.
opahnemucca	4,344	18	56	25. 57	29.9	2 + .0	57.0	+ 2.6	90	26	73	20	i	41	14 4	4 3	50	0.45	- 0.6	5	4, 491	SW.	37	S.	26	10	14	71 :	. 2	0.2
iena Lake City	5,479	147		24. 57 25. 54	29.8 29.8	$\frac{6}{6} + .0$	54.4	-0.1	82 89	26 26	70 71	28	14	38 50	41 4 30 4	7 3	41	0.84	- 1.4		8,690 5,825	sw. nw.	49	sw. nw.	18	14 17	10	4	1.1	3. 5 F
ango	6,546	18			29.8	5 + .00	3 55. 2	+ 0.2	83	23	72	28	4	38	43 3	9 2	36	0.74	- 0.4	2	5, 154	nw.	34	8.	1	11	18	2	1.1 3.5 7 4.1	
angond Junction	4,602	43	51	25. 30	29.8	3 .0	64.0	+ 2.4	90	26	78	34	4	50	37 4	7 3	34	0.12	- 0.8	4	5, 154 4, 678	se.	30	sw.	1	15	10	6	1.2	
Northern Plateau.					-		57. 2	+ 0.3					1				56	1.36	- 0.4									1	8. 1	
	0 471	46		90 44	20.0	2 + .0		1		20	85	97	,	40	90 4		7 69	1 10	0.0	19	4 890	71.117	36	sw.	26	7	15	9	5.5	
se	2, 739	78		26. 44 27. 11	29.9	5 + .0	1 59.0	+ 1.6	84	26 26	65 72	27 28	1 2 2 2 1	40	38 4 36 4			1.10 0.58			4,629	nw.	34		26 9 26	77	14	10	5.8	
ristonatello	757	40	48	29.19	29.9	9 + .0	3 59.5	- 1.3	91	31	72	35	2	47	41			1.60	0.0	10	2,308	ne.	36	8.	26	6	14	111	8.3	
atello	4,477	101		25. 42 27. 94	29.9	0 + .0 9 + .0	56.6	+ 1.1	85	26 31	66	32	2	45 3	36 4 35 4	6 3	55 58	2. 44 1. 21	+0.2 -0.4			SW.	30	S. W.	3	7 6 4 5 13	18	17	7.0	
kanella Walla	1,000	107			29.9	9 + .0	3 60. 2	- 0.8	88		71	38	1	50	32			1.24			5,085	8.	32	sw.	15	13	10	8 -		
Pac. Coast Region.							53.1	.00								1	77	2 10	- 0.5							1		1	8. 2	
							1									1														
th Headt Crescent	211 259		56			$0 + .0 \\ 0 + .0$		+0.2			54 56	42 30			11 4	9 4	88	2.85 1.32	+ 0.5	12	11,392	nw.	15	se. nw.	28			14	6.5	
ttle	125		250	29.96	30.1	0 + .0	9 54.1	- 0. 9	71	31	61	42	1	47	25 4	9 4		1.37	- 1.0	12	5,886	8.	38	SW.	9	5	9	17	6.9	
omaoosh Island	213 86			29.86 29.98		$\frac{9}{8} + .0$	7 53.6	0.9	72		61 54	40	5	46	28 4	8 4	4 72 6 90	2. 29 3. 75 1. 63	-0.2 -0.3	11	4,368	SW.	23 48		14		13	17	8.7	
tland, Oreg	153	68	106	29.91	30.0	7 + .0	4 57.6	1+ 0.8	84	31	66	41	1	46 49	27 25 4 28 4 12 4 34 5	1 4	69	1.63	- 0.7	12	3,799 5,886 4,368 8,378 4,106 2,439	nw.	20	SW.	9	12	7	12	5.0	
eburg	510	9	57	29. 51	30.0	6 + .0	3 57.4	+ 1.4	88	31	70	33	2	45	42 5	0 4	68	1.50	- 0.6	8	2, 439	n.	22	SW.	10	10	16	5	4.5	
Pac. Coast Region.							58. 8	+ 0.5									67	0.94	- 0.3			9-3						1	3. 5	
eka	62	73	90	20.05	20 1	0 + 0	5 59	1.05	84	7	57	30	2	18	15 4	9 4	7 86	1.67	- 0.9	0	6, 226	n.	35	n.	1	15	12	4	4.3	
ınt Tamalpais	2,375	11	18	27. 54	30.0	1 + .0	1 56.0	+ 2.3	78	7 30 30	63	39	12	49	24 4			1.08	- 0.4	9	13, 555	nw.	64	nw.	1 19	20	7	4	2.6	
nt Reyes Light Bluff	490 332	56	18	29.46	29.9	8	51.4	- 0.2	73	30 31	55	45 46	1	48	25	5 4	4 50	0.83	- 0.4		18,986		72	nw. n.	28	10	6	16		• • •
amento	69	100	117	29. 88	29.9	5 + .0	1 64.8	+ 1.9	92	25 30	80 78	47	2	48 56 52 50	37 5	5 4 4 4 1 4	7 60	0.51	- 0.5	5	6,219	8.	30 33	SW.	26	24	6	4	2.2	
Francisco	155	200	204	29.84	30.0	0 + .0 11 + .0 18 130 15 + .0 10 + .0	1 56.6	+ 1.1	78	30	63	48	6	50	241 5	1 4	7 77	0.63	-0.2 + 0.1	4	7,711	W.	33 25	SW.	26	15	10		4.0	
Josetheast Farallon	141	12	110	40. CK	30.0	0	. 00.	0 - 0.7	(30)		73 54	36 48	4	47 50	41			0.96	+ 0.1	4	5,022 12,641	nw.	49	nw.	28	10 19 24 15 22 12	6 5		5.5	
	00				1			1																	1			1	3.8	••••
Pac. Coast Region.		1						- 0.1									69	0.50	- 0.4											
sno	330				29.9	3 + .0	1 68.4	0.0	98	25	83	40	1	54	37 5	4 4	1 45		0.3	3	6,919	nw.		nw.	27	20	10	1	2.6	
Angeles	338		70	29. 62 29. 89	29.9	$\frac{9+.0}{8+.0}$	3 59.7	7 - 1.1	68	11	64	47	2	54 53 55 47	26 5 15 5	5 5	1 77 3 81	0.05	-0.4	1	4,304 5,193	W.	24 25	W.	28	16 15	9	6	4.4	
Luis Obispo	201		54	29. 81	30.0	3 + .0	3 57.	7 + 1.0	85	16	68	34	2	47	38 5	5 5	7 74	0.30	- 0.6	3	4,724	nw.	25	w.	12	14	13	4	3.7	
West Indies.																													1	
											0.0	00	-	700	10						0.400	ne	90	22.0	24		0	12	0 0	
Juan	82	1	54	29.90	29.9	.0	76.	2	86	27	81	69	1	12	13			7.26	+ 2.5	21	9,432	116.	33	ne.	24	8	8	10	6.2	
Panama.			1		1		-								-								1	- 1			1	1		
	92		69		29.8	3				1 5 6	88	70 69 73	27	72	22 7 20 7	5 7 4 7 6 7	4 88	8. 27	- 0.7		5,002			n.	1	0	2 11	29	8.8	
con	1 349							7			87 83	an	OP	PHO	90	4 7	to le	11.74			4,921		26		7	- 0	9.9	ani	8. 0 7. 1	

Table II.—Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during May, 1913, at all stations furnished with self-registering gages.

		Total	duration.	int of	Excess	sive rate.	before		Dep	ths of p	precipi	tation	(in in	ches)	duri	ng per	iods o	f time	indic	ated.	
Stations.	Date.	From-	То-	Total amount o	Began-	Ended-	Amount be excessive began.	5 min.	10 min.	15 min.	20 min.	25 min.	30 min	35 min		45 min	. 50 min.	60 min.	80 min.	100 min.	120 min
Abilene, Tex	23	4.30 p. m.		3.63 1.16	11.11 p. m.	12.03 a. m.	1.69	.07	. 20	.30	. 48	. 66	.81	. 90	. 98	1.02	1.11	1.16			
Amarillo, Tex. Amniston, Ala. Asheville, N. C. Atlanta, Ga. Atlantic City, N. J.	16-17	4.48 p. m. 1.05 p. m. 6.55 p. m.	D. N. a. m. 2.30 p. m. 9.20 p. m.	0. 79 0. 67 0. 95 0. 77 0. 89	8.41 p. m. 1.12 p. m. 6.56 p. m.		.01	.19 .17 .28	. 27 . 44 . 42	. 35	. 62	. 68	.72				1	.40			
Atlantic City, N. J Augusta, Ga Baker, Oreg Baltimore, Md	117	8.30 p. m. 2.40 p. m.	6.25 a. m.	1.80 0.25 0.18	8.38 p. m,	8.51 p. m.	.01	.18	.32	.37								. 25			
Bentonville, Ark Binghampton, N. Y Birmingham, Ala	. 28	10.30 a. m.		1.71 0.64 0.87 2.77	4.19 p. m.			. 25	. 28	.15	. 20	.30	.40	.47	.53	.61	. 69	.42 .20 .83			
ismark, N. Dak lock Island, R. I oise, Idaho oston, Mass	24 27		12.20 p. m.	0.32 0.51 0.17 1.09	12.07 p. m.	12.16 p. m.	.01	.18	.31									.21			
uffalo, N. Yurlington, Vtsiro, Illsuton, N. Y	. 21-22 18 16			0.87 0.21 0.63 0.50		************						*****						.61 .34 .13			
narles City, Iowa narleston, S. C narlotte, N. C nattanooga, Tenn	19-20 27 21		8.48 a. m.	1. 21 0. 15 0. 52 1. 05	8.21 a. m.	8.41 a, m.	.01	.18	.27		. 50							. 27 . 41 . 13			
neyenne, Wyo nicage, Ill ncinnati, Ohio	24 13 14	4.24 p, m,	5.10 p. m.	0.39 0.67 0.60	5.39 p. m. 4.24 p. m.	5.54 p. m. 4.36 p. m.	.03	.18	. 40	. 45	******							.39			
dumbia, Modumbia, S. Cdumbia, Ohiodumbus, Ohiodumbus, Ohiodumbus, N. H.	12 21 13	3.10 p. m.	4.35 p. m.	0. 82 0. 40 0. 63 0. 36	3.14 p. m.	3.38 p. m.	.02	.13	.14	. 22	.35	. 52						.37			
ncordia, Kans Do Do rpus Christi, Tex	3 11-12 19 21	12.16 a. m. 10.13 p. m. 7.52 p. m. 4.02 p. m.	5.05 a. m. 12.30 a. m. 11.52 p. m.	1.46 1.96 0.51 1.30 0.63	12.18 a. m. 11.35 p. m. 7.59 p. m. 4.05 p. m.	12.46 a, m, 11.53 p, m, 8.43 p, m, 4.30 p, m,	.01 .05 .01	.33 .16 .08	.50 .27 .14 .30	.73 .36 .26 .43	.94 .45 .43 .52	1.05 .60 .60	1.11	. 68	.73	.84	1	. 21			
venport, Iowayton, Ohio I Rio, Tex nver, Colo	20 14 2	4.40 p. m. 1.00 a. m.	6.28 p. m. 9.27 a. m.	0. 57 1. 17 0. 31 0. 44	4.51 p. m. 1.38 a. m.	5.06 p. m. 1.59 a. m.	.01	.17	.33	. 48	. 48	. 52						. 17			1
s Moines, Iowa troit, Michvils Lake, N. Dak	21	2.47 p. m. 7.52 a. m. 12.29 p. m.	6.30 p. m. 9.30 a. m. 1.44 p. m.	1.56	4.47 p. m. 7.56 a. m. 12.51 p. m.	5.25 p. m. 8.13 a. m. 1.26 p. m.	. 40 . 01 . 03	. 09 . 25 . 13	. 19 . 34 . 29	.35 .45 .32	. 50 . 49 . 39	. 50	. 64	.74	. 78						
dge City, Kansbuque, Iowaluth, Minnrango, Colo	19-20 28-29 27	8.45 p. m. 11.40 p. m.	4.55 a. m. 5.10 a. m.	0. 56 0. 98 1. 09 0. 67	2.13 a. m.	12.37 a. m. 2.34 a. m.	.08	.13	.35	. 43 . 57	. 64			****				. 23			
stport, Me	21		D. N. p. m.	0. 82 0. 96 T. 0. 37		8.59 p. m.												. 23 . 40 T.	•••••		
eanaba, Michreka, Calansville, Indgstaff, Ariz	20		1	0. 90 0. 38 0. 14														. 23			
t Smith, Arkt Wayne, Indt Worth, Tex	5 21 3-4		10.24 a. m.	0. 73 0. 86 1. 51 0. 28					. 35					•••••				. 47			••••
veston, Tex and Haven, Mich and Junction, Colo	14 .	2.30 a. m. D. N. p. m.	5.35 a. m. 1 1.50 p. m. 2	1. 13 2. 57 0. 29	3.15.a. m. 4.20 a. m.	4.05 a. m. 6.15 a. m.			. 14		.25	.35	. 46	. 63 . 63	.73	.77	.84	.92		1.51	
and Rapids, Mich en Bay, Wis anibal, Mo risburg, Pa	20 .			0.34 0.02 0.49														.21 .35 .41			
tford, Connteras, N. Cre, Montena, Mont	23 - 28 .			. 50 . 81 . 87														. 45 . 46 . 20			
ghton, Michston, Texon, S. Dak	17 5 31		8.25 p. m. 0 9.15 p. m. 0	. 49 . 75 . 40 . 31	5.54 p. m. 7.27 p. m.	6.10 p. m. 7.37 p. m.	.01	. 17	.39	. 56								.25			
anapolis, Ind Kans sonville, Flaspell, Mont	14 20 24	6.30 p. m.	8.15 p. m. 0	. 69 . 64 . 53 . 28	7.20 p. m.	7.35 p. m.	.03	. 12	.34	.60								.39			
sas City, Mokuk, Iowa West, Fla	17 5 1 25	5.20 a. m. 1.15 p. m. 6.45 a. m.	9.53 a. m. 0 4.15 p. m. 0 7.50 a. m. 0	. 57 . 88 . 57	5.57 a. m. 1.35 p. m. 6.45 a. m. 10.33 a. m.	6.08 a. m. 1.56 p. m. 7.05 a. m.	.02	. 15	.40 .41 .17	.42 .57 .33	. 62		70								
xville, Tenn	27 20	3.24 p. m.	6.03 p. m. 0	.76 .96 .17	4.02 p. m.	11.09 a. m. 4.20 p. m.	*****		.25	.38	. 43	. 68		.98				. 16			
Salle, Illiston, Idahoington, Ky	5 9 20	2.12 p. m. 3.28 p. m.	2.58 p. m. 0. 5.00 p. m. 0.	. 46 . 60 . 65 . 53		2.54 p. m. 3.55 p. m.	.01	.30		.30	. 55	.58						. 25			
coln, Nebr	28 21		5.40 p. m. 0. 0.	81 05 35	2.46 p. m.	12.18 p. m. 3.00 p. m.			.41	.36								.02			
on, Galison, Wis	23-24 31 4		6.10 a. m. 1. 0. 0.	46 83 26 99	7.08 p. m.	7.43 p. m.	.41	12			. 49		. 59	. 67				.23 .			
quette, Mich mphis, Tenn	3-4		3.10 p. m. 2.	66		7.19 a. m.	. 89	16					. 64		.84						

13

in

20 in.

TABLE II.—Accumulated amounts of precipitation for each 5 minutes, for the principal storms in which the rate of fall equaled or exceeded 0.25 inch in any 5 minutes, or 0.80 in 1 hour, during May, 1913, at all stations furnished with self-registering gages—Continued.

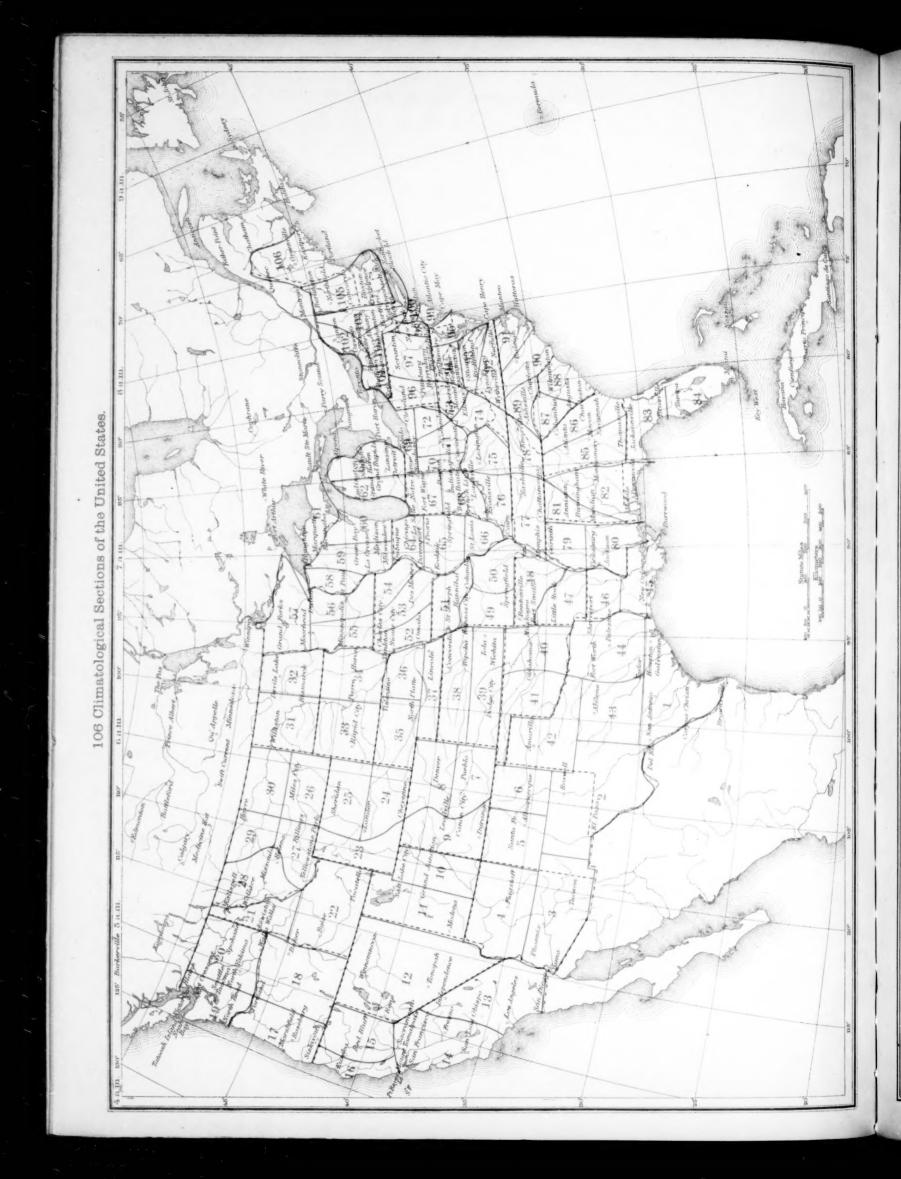
		Total	duration.	int of	Excess	sive rate.	before e rate		Dept	hs of p	recipi	tation	(in in	ches)	during	g peri	ods of	f time i	ndica	ted.	
Stations.	Date.	From-	То-	Total amount precipitation.	Began—	Ended—	Amount be excessive began.	5 min.	10 min.	15 min.	20 min.	25 min.	30 min.	35 min.	40 min.	45 min	50 min.	60 min.	80 min.	100 min.	
Meridian, Miss	. \$15-16	2.06 p. m. 6.35 p. m.	3.10 p. m. D. N. a. m.	0.91 1.52	2.14 p. m. 7.18 p. m.	2.52 p. m. 7.40 p. m.	.01	. 18	.33	. 49	. 60			.82	.87						
,	21-23	9.15 p. m. 7.40 p. m.	D. N. a. m.	2.69 1.21	8.24 p. m.	9.20 p. m.	1.31	. 05	. 17	.32	. 48	.52	. 62	. 68	.74	.79	.89	.97			
Miami, Fla	. 24	11.41 a. m.	D. N. p. m.	2.79	7.45 p. m. 11.52 a. m.	8.17 p. m. 1.18 p. m.	.06	.27	. 62	.80	. 92	1.00		71	.75	.81	.91	.97		1.39	
Milwaukee, Wis	25	5.25 p. m.	D. N. p. m.	2.69	5.30 p. m.	6.19 p. m.	.01	.20	. 59	1.05	1.43		1.85	2.02	2.24	2.31	2.36				
Minneapolis, Minn Mobile, Ala	. 14	D. N. a. m.	D. N. a. m.	0.86 0.56	2.06 a. m.	9 96 a m	15											38			
Modena Utah	. 28			0.21			. 15	.07	.20	.30	. 40							. 14			
Montgomery, Ala Moorhead, Minn Mount Tamalpais, Cal Mount Weather, Va	23	D. N. a. m.		2.01	5.33 a. m.	5.45 a. m.	.07	.06	. 43	. 50											
Mount Tamalpais, Cal	27			0.59														. 14			
Nantucket, Mass Nashville, Tenn	. 23 24 . 16			0.87					******									.36			
New Haven, Conn	23			0.87	•••••													40		*****	
New Orleans, La	1 7	9.20 a. m. 11.37 a. m.	12.55 p. m. 2.35 p. m.	1.06	9.33 a. m.	9.58 a. m.	. 02	.17	.38	. 43	. 53	. 63						. 28		*****	
Do	. 21-22	D. N. p. m.	1.55 p. m.	0.89 3.78	11.38 a. m. 12.20 a. m.	11.58 a. m. 1.01 a. m.	.01	.33	.67	.68	.77	.52	.87	1. 15	1.36					•••••	
Do New York, N. Y	21-22	D. N. p. m.	1.55 p. m.	3.78 0.81	3.22 a. m.	4.07 a. m.	1.55	. 07	. 14	.34	. 44	.56	.61	. 64	.72	.82			*****		
New York, N. Y Norfolk, Va	23 20	5.55 p. m.		0.50	6.02 p. m.	6.11 p. m.	.01	. 19	.37		*****							.38			
Northfield, Vt North Head, Wash	23			0.73	•••••••	•••••	******	•••••		•••••								. 16			
North Platte, Nebr Oklahoma, Okla	. 31	10.03 p. m. 4.24 p. m.	11.08 p. m.	1.52	10.11 p. m.	10.46 p. m.	.01	. 14	.29	. 53	.79	1.17	1.40	1.50				.18			
Omaha, Nebr	1 2-3	6.05 p. m.	7.30 a. m.	0.58	4.35 p. m. 8.02 p. m.	5.05 p. m. 8.37 p. m.	.04	.05	.13	. 24	.36	.44	.51	.69							
Oswego, N. Y	119-20	7.00 p. m. 1.35 p. m.	1.50 a. m. 2.44 p. m.	0.70	7.09 p. m. 1.59 p. m.	7.37 p. m. 2.10 p. m.	.01	.07	. 15	.37	.47	.42	.60								
Palestine, Tex	20 26	5.02 p. m.	5.50 p. m.	1.03	5.04 p. m.	5.36 p. m.	.02	.21	.51	. 52	.61	.79	.98	1.01	•••••			• • • • • • • • • • • • • • • • • • • •			
Oswego, N. Y	16	12.57 p. m. 5.45 p. m.	7.40 p. m. 11.20 p. m.	0.81	2.27 p. m. 9.29 p. m.	2.37 p. m. 9.53 p. m.	.07	.31	.50	.28											
		10.55 p. m.		0.42	7.05 a. m.						. 45	. 61						.38			
Philadelphia, Pa Phoenix, Ariz Pierre, S. Dak	1			1.24		7.20 a. m.	.41	. 19	.30	. 40											
Pierre, S. Dak Pittsburgh, Pa	. 18-19	11.30 p. m.	3.05 a. m.	1. 22 0. 49		12.57 a. m.		. 12	.21	.28	.40	. 47	. 49	. 55	. 64	.68		*****			
Pittsburgh, Pa	18 27			1 20		The state of the s									*****			.41			
Point Reyes Light, Cal Port Huron, Mich Portland, Me Portland, Oreg Providence, R. I	15			0.52 1.22	••••••						•••••				*****			.11	*****		****
Portland, Me	29			0.60 0.25	•••••										*****	*****	*****	.30	*****		
rovidence, R. I	28			0. 52	***********		*****											.10			
Raleigh, N. C.	27	9.50 a. m.	2.55 p. m.	1.23 0.77	1 18 n m	1.35 p. m.												.31			
Rapid City, S. Dak Reading, Pa	29 23			0.60	p. m.				.37	. 49	. 54	*****						.24			
Red Bluff, Cal	. 18	• • • • • • • • • • • • • • • • • • • •		1.55 0.34	***********	**********												. 46		*****	
Reno, Nev	31 30			0. 19 0. 74	4 91 n. m	4.40							*****	*****		*****	*****	.34	*****	*****	****
Rochester, N. Y	28			0.64	4.21 p. m.	4.48 p. m.	.01	.09	.42	. 53	. 62	.70						.30			
Roswell, N. Mex	11-12 25			0. 50 0. 02		***********												.27			
acramento, Cal	27 15			0.31		**********									•••••	*****		.02			
t. Joseph, Mo	20	8.06 p. m.	8.45 p. m.	0.59	8.18 p. m.	8.37 p. m.	.03	.11	.27	.40	47							.25			
t. Paul. Minn	26		7.30 a. m.	0.63	5.33 a. m.	5.43 a. m.	.01	.28	.48		.47							*****	*****		
alt Lake City, Utah	18			0. 21	***********		******					*****						.49			
Reno, Nev. Richmond, Va. Rochester, N. Y. toseburg, Oreg. toswell, N. Mex. sacramento, Cal. saginaw, Mich. it. Joseph, Mo. it. Louis, Mo. it. Paul, Minn. alt Lake City, Utah. an Antonio, Tex. an Diego, Cal. and Key, Fla.	15 28	8.40 p. m.	9.50 p. m.	0.07	9.13 p. m.	9.42 p. m.	. 05	. 12	.38	.80	1.35	1.67	1.82								
and Key, Flaandusky, Ohio	00	11.40 a. m.	2.30 p. m.	1.09	12.07 p. m.	12.34 p. m.	. 05	. 22	.48	.72	.75	.82	.86				•••••	.07			
an Francisco, Cal	17			0.58														.46			
an Jose, Cal an Luis Obispo, Cal			*********	0.66									*****					.08	*****	****	
anta Fe, N. Mex	31			0.12									•••••	•••••				.09		*****	
avannah, Ga	15	1.54 p. m.		0.49	1.57 p. m.	2.15 p. m.	.01	.20	.34	46								.16		*****	
cranton, Pa	28			0.59					.02	. 46	. 52						*****	. 22	****	*****	****
heridan, Wyo	16			0.20		************												.15			****
hreveport, La	15-16	8.55 p. m. 2.25 p. m.	D. N. a. m. 7.55 p. m.	1. 02 1. 01	9.59 p. m. 4.50 p. m.	10.18 p. m.	.12	.18	.41	. 53	. 62		*****				*****	.15		*****	****
outheast Farallon, Cal pokane, Wash	10	p. in.		0.79 .	4.00 p. m.	4.55 p. m.	.30	.36										.14			
pringfield, Ill	26			0. 27 .														. 20			
pringfield, Mo	28			1.13† .														.31		• • • • • •	
acoma, Wash	9	2.50 p. m.		0.65 .	3.02 p. m.	3.12 p. m.	.02	.27	.38									.15			
ampa, Fla atoosh Island, Wash	24	**********		0.63 .													*****	. 47			
aylor, Texerre Haute, Ind	15-16	3.39 p. m.	D. N. a. m.	2.82	5.19 p. m.	6.23 p. m.	.18	.08	.15	.50	.83	1.05	1.18	1.29	1.41	1.51	1.63	.18	1 00		
homasville, Ga	15	**********		0.26 .														. 23	1.96		
oledo, Ohio	{14-15 15	8.05 p. m. 4.50 p. m.	D. N. a. m.	1.38	9.35 p. m.	10.06 p. m.	.10	. 28	.48	.56	.68	.81	.83					.41			
onopah, Nev	29 .			0.68 0.85	5.00 p. m.	5.18 p. m.	.02	. 13	. 31	. 59	. 65	•••••									•••••
opeka, Kansalentine, Nebr	19 11	8.16 a. m. 3.50 p. m.		0.73 0.97	8.29 a. m. 4.21 p. m	8.53 a. m.	.03	.07	.21	.28	. 49	. 56						.15			****
icksburg, Missalla Walla, Wash	21 .	· · · · · · · · · · · ·		0.78	4.21 p. m.	4.46 p. m.	. 01	.09	.38	.77	. 90	. 96						. 24			
ashington, D. C	23-24	2.41 p. m.	3.50 a. m.	2. 24	4.29 p. m.	4.39 p. m.	41	14	20												*****
ichita, Kans	3 25			0.51 .		2.00 p. m.	.41	.14	.32									. 25			
illiston, N. Dak ilmington, N. C.	28	6.45 a. m.	8.25 a. m.	0. 17 0. 76	7.12 a. m.	7.31 a. m.	. 01	.19	.42	.54	. 62							.16			
innemucca, Nev ytheville, Va. ankton, S. Dak	18 27	1.45 p. m.		0. 35 0. 68	1.47 p. m.													. 21			
ankton & Dok		12.45 a. m.		0.00		2.03 p. m.	.01	.16	.47	. 59	. 65										*****
ellowstone Park, Wyo	10	12.40 a. III.		2. 20 0. 89 .	3.32 a. m.	4.36 a. m.	. 56	.07	.16	. 31	. 39	. 49	. 62	.72	.78	. 83	. 91	1.15	1.31		

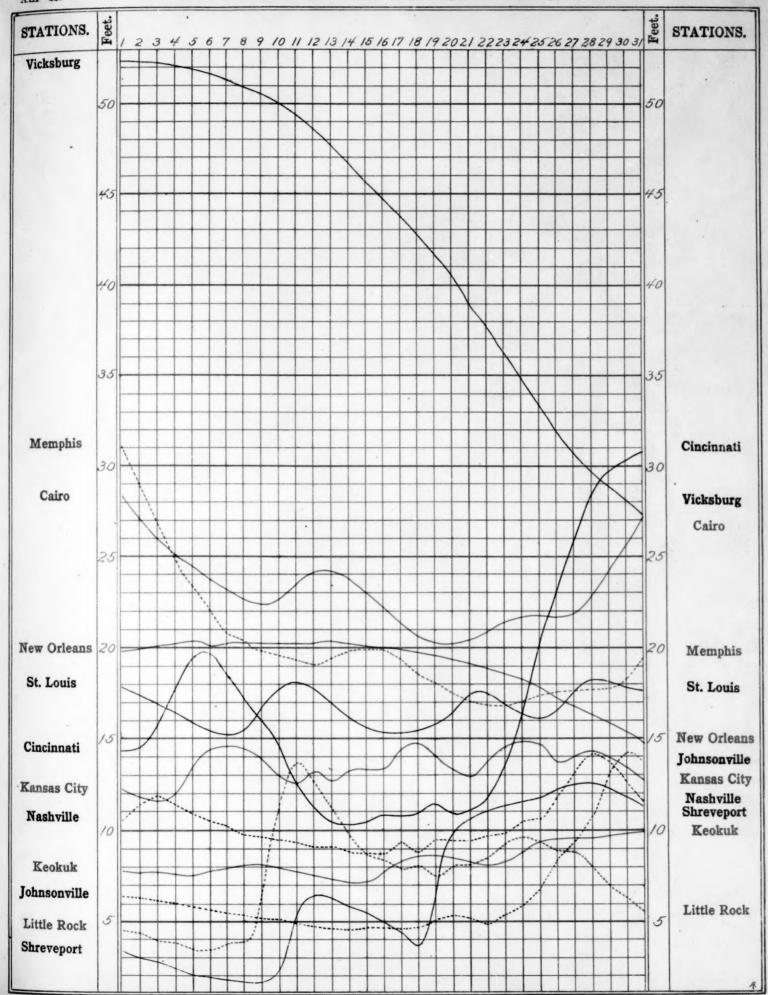
Climatological Districts of the United States.

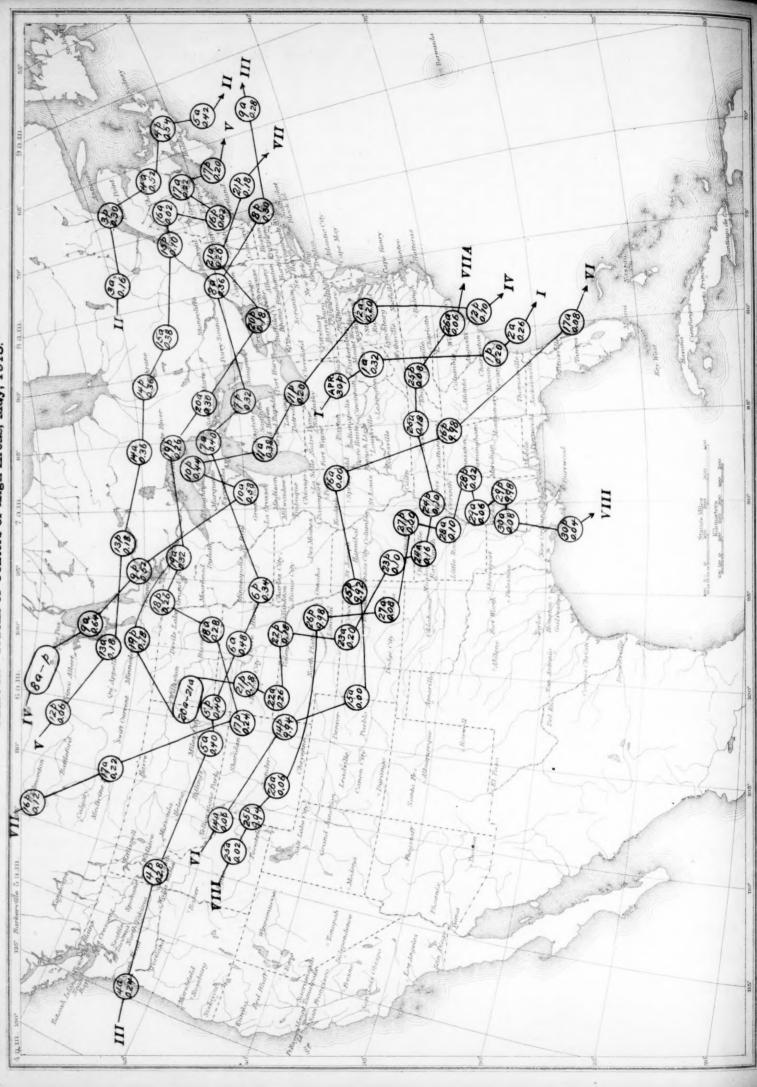
TABLE III.—Data furnished by the Canadian Meteorological Service, May, 1913.

	Pres	sure (in inc	ehes).			Tempe	rature.			P	recipitatio	n.
Stations.	Station, reduced to 24-hour mean.	Sea level, reduced to 24-hour mean.	Depar- ture from normal.	Mean max.+ mean min.+2.	Departure from normal.	Mean maxi- mum.	Mean mini- mum.	Highest.	Lowest.	Total.	Departure from normal.	Total snowfall
St. Johns, N. F.	29, 26	29, 69	-, 29	43. 2	+0.3	51, 4	34.9	73	28	4. 67	+1.01	T.
Sydney, C. B. I		29, 93	-, 04	44.5	-0.7	52.6	36. 4	70	27	2.16	-1.61	
Halifax, N. S.	29.83	29.94	04	47.0	-1.4	56.0	38, 1	66	29	5, 20	+0.94	
Yarmouth, N. S.	29.88	29.95	03	46.2	-1.4	52.8	39. 5	64	30	7. 22	+3.42	*******
Charlottetown, P. E. I.	29.89	29.93	03	45. 4	-1.5	52.7	38.1	66	30			
That how M D	29. 89									1.87	-1.04	1.
Chatham, N. B.	29.93	29.95	.00	47.6	-0.9	57.2	37.9	88	28	2. 72	-0.49	
Father Point, Que		29.94	+.01	43. 4	-0.6	50.0	36.8	68	24	2.85	+0.27	1.
Quobec, Que	29.63	29.95	+.01	50.8	+0.9	60.7	40.9	84	28	2.69	-0.39	
fontreal, Que	29.76	29.97	+.03	53.9	-0.8	62.9	44.9	85	32	3.84	+0.89	
Stonecliffe, Ont		29.98	+.05	50.4	-1.9	63.2	37.5	87	23	2.04	-0.47	
Ottawa, Ont	29.73	30.05	+.11	53. 2	-1.7	63.2	43.2	86	30	2.87	+0.28	
Kingston, Ont		30.02	+.06	52.1	-0.8	60.7	43.5	74	26	4.16	+1.48	
Foronto, Ont		30.01	+.03	54.3	+1.1	64.2	44.3	87	30	1.04	-2.00	
White River, Ont		00101	1.00	01.0	,	01.2			00	4.04		
Port Stanley, Ont	29.40	30, 04	+.07	52.4	-0.7	61.9	43.0	74	26	2.29	-0.89	*******
Southampton, Ont	29.34	30.01		49. 2	-1.5	58.9	39.6	82	25	0. 82	-1.62	
Parry Sound, Ont.		30, 04	+.09	49.6	-1.5	60.2	38.9	83	24	1.57		********
											-1.36	********
Port Arthur, Ont.		30.03	+.07	44.6	-1.3	54.7	34.5	80	24	3.43	+1.28	2.
Winnipeg, Man		30.02	+.06	50.0	-1.6	61.7	38. 2	88	22	0.53	-1.75	
dinnedosa, Man							********	********				
¿u'Appelle, Sask	27.71	29.95	+.01	48.2	-1.6	59.8	36.6	87	21	2.26	+0.61	4.
fedicine Hat, Alberta	27.64	29.91	+.02	55.1	+1.0	69.1	41.2	88	23	1.06	-0.25	
wift Current, Sask	27.37	29.94	+.02	50.4	-0.3	61.9	39.0	86	26	1.41	-0.35	T.
Calgary, Alberta	26, 40	29.92	+.04	48.9	-0.1	61.7	36.1	80	19	2.27	+0.50	T.
Banff, Alberta		29.96	+.08	43.5	-3.5	54.4	32.6	70	17	1.34	-0.70	8,
Edmonton, Alberta		29.95	+.07	49.4	-1.4	62.0	36.9	78	23	0.79	-0.76	0.
rince Albert, Sask		20.00	7.01	20. 1	1.4	02.0	00. 0	.0	40	0. 10	-0.10	0.
		29.97	+.05	49.8	-1.2	62.8	36.7	80	25	0.46	1 10	********
Battleford, Sask		29.91	T.00	49.0	-1.2	02.0	30.7	80	20	0.40	-1.16	
Kamloops, B. C		90.00	1 00	FO 0		00 4				0.00		
lictoria, B. C		30.06	+.06	53.9	+1.4	62.4	45.4	75	37	0.80	-0.68	
Barkerville, B. C		29.92	+.08	41.8	-3.7	52.4	31.2	62	15	3.13	+0.61	10.
Iamilton, Bermuda	29.95	30.11	+.05	66.4	-3.0	72.6	60.3	77	49	1.32	-3.34	

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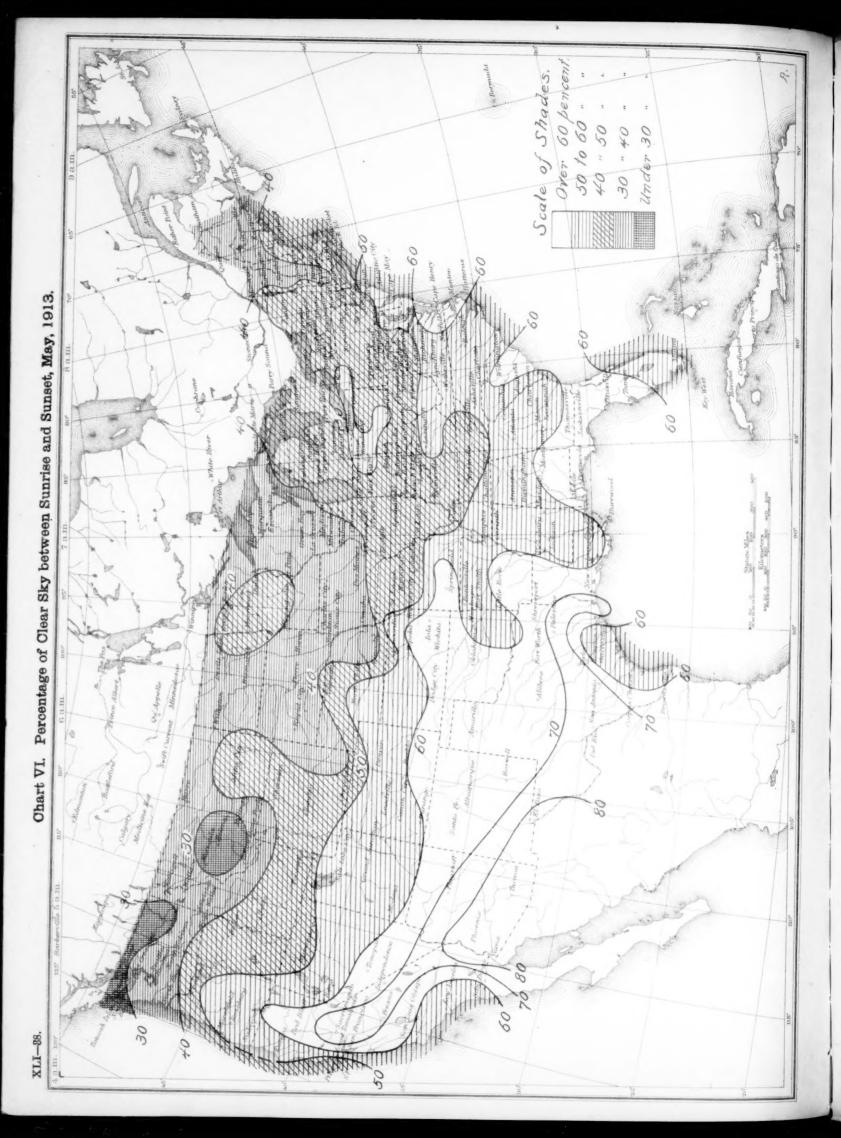






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